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MEDICAL BOTANY:

CONTAINING

SYSTEMATIC AND GENERAL DESCRIPTIONS,

WITH

Plates of all the Medicinal Plants,

INDIGENOUS AND EXOTIC,

COMPREHENDED IN THE

CATALOGUES OF THE MATERIA MEDICA,

AS PUBLISHED BY THE

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND EDINBURGH:

TOGETHER WITH MOST OF THE PRINCIPAL MEDICINAL PLANTS

NOT INCLUDED IN THOSE PHARMACOPŒIAS.

ACCOMPANIED WITH A CIRCUMSTANTIAL DETAIL OF THEIR MEDICINAL EFFECTS,

AND OF THE DISEASES IN WHICH THEY HAVE BEEN MOST

SUCCESSFULLY EMPLOYED

BY

WILLIAM WOODVILLE, M. D.

FELLOW OF THE LINNEAN SOCIETY,

OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON,

AND PHYSICIAN TO THE SMALL-POX AND INOCULATION HOSPITALS.

SECOND EDITION.

VOL. I.

Medicus omnium Stirpium (si fieri potest) peritiam habeat; sin minus plurium saltem quibus frequenter utimur. GALEN, *Lib. de Antidot.*

LONDON:

PRINTED AND SOLD BY WILLIAM PHILLIPS, GEORGE YARD, LOMBARD STREET.

1810.

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Sept. 1908
185-69

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Dedication to the first edition.

To Sir George Baker, Bart.

PRESIDENT,

THE

FELLOWS,

AND THE

LICENTIATES,

OF THE

ROYAL COLLEGE OF PHYSICIANS,

LONDON:

THIS FIRST VOLUME OF MEDICAL BOTANY,

WITH THEIR PERMISSION,

IS MOST RESPECTFULLY INSCRIBED,

BY

THE AUTHOR.

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PREFACE TO THE FIRST EDITION.

IN the catalogues of the Materia Medica, the productions of the animal and mineral kingdoms bear a small proportion to those of the vegetable. Though it must be acknowledged that for some time past the medicinal uses of vegetable simples have been less regarded by physicians than they were formerly, which probably may be ascribed to the successive discoveries and improvements in chemistry; it would however be difficult to shew that this preference is supported by any conclusive reasoning drawn from a comparative superiority of Chemicals over Galenicals, or that the more general use of the former has actually led to a more successful practice.

Although what may be called the herbaceous part of the Materia Medica, as now received in the British pharmacopœias, comprises but a very inconsiderable portion of the vegetable world; yet limited as it now is, few medicinal practitioners have a distinct botanical knowledge of the individual plants of which it is composed, though generally well acquainted with their effects and pharmaceutical uses. But the practitioner, who is unable to distinguish those plants which he prescribes, is not only subjected to the impositions of the ignorant and fraudulent, but must feel a dissatisfaction which the inquisitive and philosophic mind will be anxious to remove, and to such it is presumed MEDICAL BOTANY, by collecting and supplying the information necessary on this subject, will be found an acceptable and useful work; the pro-

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fessed design of which is not only to enable the reader to distinguish with precision all those plants which are directed for medicinal use by the Colleges of London and Edinburgh, but to furnish him at the same time with a circumstantial detail of their respective virtues, and of the diseases in which they have been most successfully employed by different writers.

A distinctive and characteristic knowledge of natural objects should certainly precede the consideration of their different properties and qualities; and with respect to plants, this knowledge is seldom to be adequately attained by a mere verbal description: accurate delineations therefore become necessary, and this department is committed to Mr. Sowerby, an artist of established reputation, whose talents are not less conspicuous in the correctness than in the beauty of his designs.

It is justly a matter of surprize, that notwithstanding the universal adoption of the Linnæan system of Botany, and the great advances made in natural science, the works of Blackwell and Sheldrake should still be the only books in this country in which copper-plate figures of the medicinal plants are professedly given; while splendid foreign publications of them, by Regnault, Zorn, and Plenk, have appeared in the space of a very few years. These works however are far from superceding that now offered to the public; for without resorting to the inviduous task of pointing out their errors and imperfections, the author has the satisfaction of having exhibited Icons of several rare and valuable plants, which have never been completely figured in any preceding work whatever: and by subjoining some account of the botanical and medical history of each species, curiosity is more fully gratified, and a double interest is excited in the mind of the student.

Duplex est dos libelli.

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PREFACE TO THE FIRST EDITION.

Respecting the uses of Simples, the opinion of Oribasius will not be disputed, viz. "*Simplicium medicamentorum, & facultatum "quæ in eis insunt, cognitio ita necessaria est, ut sine ea nemo rite "medicari queat:*" and it is a lamentable truth, that our experimental knowledge of many of the herbaceous simples is extremely defective; for as writers on the Materia Medica have usually done little more than copy the accounts given by their predecessors, the virtues now ascribed to several plants are wholly referrible to the authority of Dioscorides. It is however hoped that the medical reader will find what relates to this part of the work as complete as the slow progressive state of experience in physic will admit: with this intention, facts and opinions have been industriously collected from various authorities; and those adduced by Professor Murray, and the works of the late Dr. Cullen, have furnished the largest contribution.

The publication of this work in monthly numbers has afforded the author an opportunity of knowing already the sentiments entertained of it, by several Gentlemen of great medical and botanical authority; from whose unsolicited communications he has derived considerable assistance, and for whose friendly suggestions he desires to make his most grateful acknowledgments.

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ORD. I. CONIFERÆ.

From *conus* and *fero*, consisting of cone-bearing plants, all of which produce male and female flowers separately. The whole order is almost entirely composed of shrubs or trees abounding with a resinous juice, of a pleasant odour, but bitter, and disagreeable to the taste.

Coniferæ sunt resiniferæ et diureticæ. *Lin.*

PINUS SYLVESTRIS. SCOTCH FIR.

Pix liquida. *Pharm. Lond. & Edinb.*

SYNONYMA. Pinus sylvestris. *Bauh. Pin. p.* 491. *Gerard. Emac. p.* 1356. *Raii Hist. p.* 1399. Pinus rubra foliis geminis brevioribus glaucis, conis parvis mucronatis. *Mill. Dict.* Pinus sylvestris foliis brevibus glaucis, conis parvis albicantibus. *Du Hamel. Arb. 2. p.* 125. *t.* 30. *Raii Synop. p.* 442. See *Hudson. Flor. Ang. ed. 1.* 361. *Lightfoot, Flor. Scot. p.* 587. *Withering. Bot. Arr. p.* 1092. *Ic. Miller's Illust. The Scotch Fir Tree, Hunter's Evel.*

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Class Monoecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1077.

Ess. Gen. Ch. *Masc. Cal.* 4-phyllus. *Cor.* 0. *Stam.* plurima. *Antheræ* nudæ.

Fem. Cal. strobili: squama 2-flora. *Cor.* 0. *Pist.* 1. *Nux* ala membranacea excepta.

Sp. Ch. P. foliis geminis rigidis, conis ovato-conicis longitudine foliorum subgeminis, basi rotundatis. *Hort. Kew.*

THIS tree grows usually straight, tapering, and to a great height, so as to be made into good masts for ships: the branches are numerous, divaricating, and like the stem covered with rough bark of a reddish brown colour: the leaves stand in pairs, and are united at the base with the sheath; they are two or three inches long, convex on one side, concave on the other, very narrow, linear, striated, somewhat pointed, of a deep green glaucous colour, and surround the ends of the smaller branches: the flowers are male and female upon the same tree; the former stand in bunches without any calyx, unless the loose scales be considered as such: there is no corolla: the filaments are numerous, united at the bottom, forming an upright pillar, and furnished with erect antheræ: the latter consists of a calyx, or common cone, which is small, composed of scales, with two flowers in each; the cones are oblong, imbricated, permanent, inflexible: there is no corolla: the germen is very small, producing a tapering style, terminated by a simple stigma: there is no capsule, but the scales of the cone, which before stood open, close upon the seed or nut, which is supplied with a membranous wing.

It is a native of Scotland, especially among the highland mountains, and hence named Scotch Fir. It flourishes best in a poor sandy soil. In black, boggy or chalky ground, or near stagnant waters, it does not thrive. The wood is used for various purposes, and the inner bark is, by the inhabitants of the north of Europe, made into a kind of bread.

Though most species of Fir possess in common the same medicinal

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properties, and all agree in affording the different products of the turpentine kind, yet as it has been found that some species produce these different articles of the Materia Medica in greater purity, or in more abundance than others, we have accordingly assigned to each, the respective article which it best supplies. This tree not only furnishes most abundantly the Pix liquida, or Tar, but also from it may be obtained the common turpentine, and the white and yellow resins.

The manner in which the Tar is procured is by cutting the tree into pieces, which are inclosed in a large oven constructed for the purpose, with a channel at the bottom. A sufficient degree of heat is then applied, by which the tar is forced out of the wood, and runs off by the opening at the bottom: a process termed *distillatio per descensum*.

Tar, which is well known from its œconomical uses, is properly an empyreumatic oil of turpentine, and has been much used as a medicine both internally and externally. Tar water,* or water impregnated with the more soluble parts of tar, was sometime ago a very popular remedy in various obstinate disorders, both acute and chronic; especially in small-pox, scurvy, ulcers, fistulas, rheumatism, asthma, coughs, cutaneous complaints, &c. and though its medicinal efficacy was greatly exaggerated by the publications of Bishop Berkeley, Prior, and others, yet Dr. Cullen acknowledges that he experienced this preparation in several cases to be a valuable medicine, and that it "appeared to strengthen the tone of the stomach, to excite appetite, promote digestion, and to cure all symptoms of dyspepsia. At the same time it manifestly promotes the excretions, particularly that of urine: and the same may be

* The proportions that have been commonly employed, are two pounds of tar to a gallon of water; which are to be well stirred together, then suffered to settle for two days, and the clear liquor poured off for use. From a pint to a quart, according to circumstances, may be taken in the course of twenty-four hours. Dr. Cullen thinks with Mr. Reid, that the acid principle gives the virtue to tar water; and hence the Bishop of Cloyne properly preferred the Norway tar to that of New England, as the former contains more acid than the latter.

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presumed to happen in that of others. From all these operations it will be obvious, that in many disorders of the system this medicine may be highly useful."[a]

An ointment of tar is directed in both Pharmacopœias, which has been chiefly employed in cutaneous disorders. Dr. Cullen says, "I have met with an empirical practice with respect to tar of a singular kind. A leg of mutton is laid to roast; and whilst it continues roasting, it is basted with tar instead of butter. Whilst the roasting goes on, a sharp skewer is frequently thrust into the substance of the mutton, to give occasion to the running out of the gravy; and with the mixture of the tar and gravy to be found in the dripping-pan, the body is to be anointed all over for three or four nights successively; whilst for the same time the same body-linen is to be worn. This is alleged to be a remedy in several cases of lepra; and I have had one instance of its being employed in a lepra icthyosis with great success: but for reasons readily to be apprehended, I have not had opportunities of repeating the practice."[b]

[a] *Mat. Med. vol. ii. p.* 334.

[b] *L. c.*

PINUS ABIES. NORWAY SPRUCE FIR TREE.

Pix burgundica. *Pharm. Lond. & Edinb.*

SYNONYMA. Picea major prima, sive Abies rubra. *Bauh. Pin.* 493. Picea major. *Ger. Emac. p.* 1354. *Park. Theat. p.* 1538. Abies mas Theophrasti. *Raii Hist. p.* 1396. *Synop. p.* 441. P Abies. *Huds. Flor. Ang. ed.* 1. *p.* 361. Abies tenuiore folio, fructu deorsum inflexo. *Du Hamel Arb.* 1. *p.* 3. *t.* 2. The Spruce Fir Tree, *Hunter's Evelyn.* 178.

Sp. Ch. P. foliis solitariis subtetragonis acutiusculis distichis, ramis infra nudis, conis cylindraceis. *Hort. Kew.*

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THIS tree somewhat resembles the former in its general appearance: the leaves are short, solitary, pointed, somewhat quadrangular, and upon the older branches incline in opposite directions: the cones are almost cylindrical, bent downwards, larger, and of a darker colour than in the preceding species.

Ray and Hudson mention this tree as a native of Scotland; but we are told in the *Flora Scotica* that the P. sylvestris is the only species of pine that grows wild in that country.

Upon an incision being made into the bark of this tree, a clear tenacious fluid issues, which concretes into a resinous substance, known by the name of *resina abietis*. This, after being boiled in water, and strained through a linen cloth, is called in the Pharmacopœias *Pix burgundica*, or Burgundy pitch. But if the boiling of the native resin is continued till the water is wholly evaporated, and wine vinegar is at this time added, a substance named *Colophonium* is formed.

Burgundy pitch, which is chiefly imported from Saxony, is of a solid consistence, yet somewhat soft, of a reddish brown colour, and not disagreeable in smell. It is entirely confined to external use, and was formerly an ingredient in several ointments and plasters. In inveterate coughs, affections of the lungs, and other internal complaints, plasters of this resin, by acting as a topical stimulus, are frequently found of considerable service.

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PINUS PICEA. SILVER FIR TREE.

Terebinthina communis. *Pharm. Lond. & Edinb.*

SYNONYMA. Abies conis sursum spectantibus, seu mas. *Bauh. Pin. p.* 505. Abies. *Ger. Emac. p.* 1363. *Park. Theat. p.* 1539. Abies Taxi foliis. *Raii Hist. p.* 1394. *Synop. p.* 441. Abies foliis solitariis emarginatis, conis oblongis erectis, squamis subrotundis planis basi acuminatis. *Du Roy, Baumz. T.* 2 *p.* 95. *Hall. n.* 1657. Pinus Picea. *Huds. Flor. Ang. p.* 361. Abies taxi folio, fructu sursum spectante. *Du Hamel. Arb.* 1. *p.* 3. *t.* 1. The Silver Fir Tree, *Hunter's Evel. Sylva.* 178.

Sp. Ch. P. foliis solitariis planis emarginatis pectinatis, squamis coni obtusissimis adpressis. *Hort. Kew.*

THIS tree seldom grows to the height of the former species: its bark is closer, and that of the branches is of a shining silvery hue: the leaves are solitary, short, rigid, and on the under side marked with two longitudinal whitish lines; on the upper branches they are obtusely pointed, and grow so close as almost to conceal the bark; on the lower branches they are emarginated, and stand in a pectinated manner: the cones are upright, large, and furnished with scales, which, when young, have a membranous appendage, rising from the upper margin, but when fully formed, the scales are very obtuse, and closely embrace each other. It is a native of Switzerland and Germany; and according to the Hortus Kewensis was first cultivated in the Chelsea Garden, 1739; but as thirty-six fine trees of this species are mentioned by Plot and Ray as growing near Newport, in Shropshire, it must have been cultivated in this country at a much earlier period.

Though Linnæus, and several other writers on the Materia Medica, refer the common turpentine to the pinus sylvestris, and

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the terebinthina argentoratensis, or Strasburgh turpentine, to the Silver Fir Tree; yet, upon the authority of Murray, who follows Du Hamel and Haller, we have ascribed the terebinthina vulgaris to the pine here figured, which pours out the turpentine so freely, that it is seldom necessary to make incisions through the bark for the purpose

The medicinal uses of the different turpentines will be considered under the Pinus Larix.

PINUS LARIX. COMMON WHITE LARCH TREE.

Terebinthina veneta. *Pharm. Lond. & Edinb.*

SYNONYMA. Larix. *Bauh. Pin. p.* 493. *Ger. emac. p.* 1385. *Park. Theat. p.* 1533. Pinus foliis faciculatis deciduis, conis ovato-oblongis, squamis ovatis subscabris margine laceris. *Du Roy, Baumz. T.* 2. *p.* 61. Larix folio deciduo, conifera. *Du Hamel. Arb.* 1. *p.* 332. *t.* 131. *Bauh. Hist.* 1. *p.* 265. *Hall. Hist. n.* 1658. The Larch Tree, *Hunter's Evel.* 179.

Sp. Ch. P. foliis faciculatis mollibus obtusiusculis, bracteis extra squamas strobilorum exstantibus. *Hort. Kew.*

THE long slender pendent branches and whitish bark readily distinguish the Larch from the preceding species of pine: the leaves are deciduous, slender, soft, of a bright green colour, and placed in bundles: the cones are small, egg-shaped, covered with obtuse scales, from beneath which the bracteal leaves appear.

It is a native of Switzerland and Germany, flowering in March and April, and cultivated in England since the year 1629.

The terebinthina *veneta,* or more properly called *larigna* (as we

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are not wholly supplied with this article by the Venetians) issues spontaneously through the bark of this tree, but is more commonly obtained by wounding the bark at the distance of about two feet from the ground, and inserting in the wound a small canula, through which the turpentine flows into proper vessels, which are placed for its reception.

This turpentine is usually thinner than any of the other sorts, of a clear whitish or pale yellowish colour, a hot pungent bitterish disagreeable taste, and a strong smell, without any thing of the aromatic flavour of the Chian kind.—The different turpentines reserved for consideration here, are the Chian or Cyprus turpentine, obtained from Pistacia Terbinthius, (see O. Amentaceæ) 2. the Common, from the Pinus Picea: to this tree is also referred the Terebinthina argentoratensis, or Strasburgh turpentine: 3. the Venice turpentine: and here we may include the balsamum canadense, or Canada balsam, which may be considered as one of the purest of the turpentines, and is procured from the Pinus Balsamea, or Balm of Gilead Fir.

All these turpentines dissolve totally in rectified spirit, but give out little to watery menstrua: they become miscible with water, into a milky liquor, by the mediation of the yolk or white of an egg, and more effectually by mucilages. Distilled with water, they yield a notable quantity of a subtile penetrating essential oil, vulgarly called spirit; a yellow or blackish resin remaining in the still, which is the common rosin of the shops. The essential oil, on being distilled in a retort, becomes more subtile, and in this state is called ethereal oil of turpentine.

All the turpentines have been considered as hot stimulating corroborants and detergents, qualities which they possess in common.[a] They stimulate the first passages, and prove laxative; and we are told by Dr. Cullen, that half an ounce or an ounce of Venice turpentine, triturated with the yolk of an egg, and diffused in water,

[a] Venice turpentine is thought to be the most powerfully diuretic and detergent; the Cyprus and Strasburgh kinds the most corroborant.

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may be employed in the form of an injection, as the most certain laxative in colics, and other cases of obstinate costiveness. When turpentine is carried into the blood-vessels, it stimulates the whole system; hence its use in chronic rheumatism and paralysis. Turpentine readily passes off by urine, which it imbues with a peculiar odour; also by perspiration, and probably by exhalation from the lungs: and to these respective effects are to be ascribed the virtues it may possess in gravelly complaints, scurvy, and pulmonic disorders. In all these diseases, however, and especially the last, this medicine, as well as some of the gums and balsams of the terebinthinate kind, by acting as stimulants, are often productive of mischief, as was first observed by Boerhaave, and since by Fothergill.

Turpentine has been much used in gleets and fluor albus; its efficacy in the former of these disorders Dr. Cullen ascribes to its inducing some degree of inflammation of the urethra; in proof of which he says, "I have had some instances, both of turpentine and balsam of copaiva, producing a manifest inflammation in the urethra, to the degree of occasioning a suppression of urine; but when these effects went off, the gleet, which had subsisted for some time before, was entirely cured."

The essential oil, in which the virtues of turpentine reside, is not only preferred for external use as a rubifacient, &c. but also internally as a diuretic; and by Pitcairn and Cheyne as a remedy for the sciatica; but few stomachs are able to bear it in the doses they direct.

Turpentine, so much used formerly as a digestive application, is in modern surgery almost wholly exploded.

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JUNIPERUS SABINA. COMMON SAVIN.

SYNONYMA. Sabina. *Pharm. Lond. & Edinb.*

Varietates sunt,†

α Sabina foliis Cupressi. *Bauh. Pin. p.* 487. Sabina baccifera. *J. Bauh. Hist. vol. i. p.* 288. *Gerard. Emac. p.* 1376. Sabina baccifera major. *Park. Theat. p.* 1026. Cedrus baccifera fructu minore cœruleo. *Raii Hist. p.* 1415. Juniperus foliis cauli adpressis lanceolatis, alterne conjugatis. *Hal. Stirp. Helv. n.* 1662.

β Sabina folio Tamarisci Dioscoridis. *Bauh. Pin. p.* 487. Sabina sterilis. *Gerard. Emac. p.* 1378. Sabina vulgaris. *Park. Theat. p.* 1027. *Raii Hist. p.* 1415. Βραθυς *Græcorum.*

Class Dioecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1134.

Ess. Gen. Ch. *Masc.* *Amenti* Calyx squamæ. *Cor.* 0. Stam. 3.
Fem. *Cal.* 3-partitus. *Petala* 3. *Styli* 3. *Bacca* 3-sperma, tribus tuberculis calycis inæqualis.

Sp. Ch. J. foliis oppositis erectis decurrentibus: oppositionibus pyxidatis.

THIS shrub rises but a few feet in height: it is covered with a reddish brown bark, and sends off many branches, which are numerously subdivided: the leaves are numerous, small, erect, opposite, firm, and wholly invest the younger branches, which they terminate in sharp points: the flowers are male and female on different plants: the calyces of the *male flowers* stand in a conical catkin, which consists of a common spike-stalk, in which three opposite flowers are placed in a triple row, and a tenth flower at the end. At the base of each flower is a broad short *scale* fixed laterally to a columnar

† These two varieties are precisely the same as those noticed by Dioscorides. See L. 1. C. 104.

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pedicle: there is no corolla: the filaments in the *terminating* flower are three, tapering, united at the bottom into one body, and furnished with simple antheræ, but in the lateral flowers the filaments are scarcely perceptible, and the antheræ are fixed to the scale of the calyx: the calyx of the *female flowers* is composed of three small permanent scaly segments, growing to the germen: the petals are three, stiff, sharp, permanent: the germen supports three styles, supplied with simple stigmata: the fruit is a roundish fleshy berry, marked with tubercles, which are the vestiges of the petals and calyx; when ripe the berry is of a blackish purple colour, and contains three small hard irregular shaped seeds. It flowers in May and June.

Savin is a native of the South of Europe and the Levant: it has been long cultivated in our gardens,[a] and from producing male and female flowers on separate plants it was formerly distinguished into the barren and berry bearing Savin: the latter of these our plate represents.[b] "The leaves and tops of Savin have a moderately strong smell of the disagreeable kind, and a hot, bitterish, acrid taste; they give out great part of their active matter to watery liquors, and the whole to rectified spirit. Distilled with water they yield a large quantity of essential oil.[c] Decoctions of the leaves, freed from the volatile principle by inspissation to the consistence of an extract, retain a considerable share of their pungency and warmth along with their bitterness, and have some degree of smell, but not resembling that of the plant itself. On inspissating the spirituous tincture, there remains an extract, consisting of two distinct substances, of which one is yellow, unctuous or oily, bitterish, and very pungent; the other black resinous, tenacious, less pungent, and subastringent." †

[a] Cultivated in 1562. Turn. herb. part 2. fol. 124 *Aiton's Hort. Kew.*

[b] For the male inflorescence of this genus, see the next plate, viz. n. 6.

[c] From thirty-two ounces Hoffman obtained five ounces of this essential oil, in which the whole virtue of the plant seems to reside. † Lewis Mat. Med.

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Savin is a powerful and active medicine, and has been long reputed the most efficacious in the Materia Medica, for producing a determination to the uterus, and thereby proving emmenagogue;[d] it heats and stimulates the whole system very considerably, and is said to promote the fluid secretions.

The power which this plant possesses in opening uterine obstructions is considered to be so great, that we are told it has been frequently employed, and with too much success, for purposes the most infamous and unnatural.[e] It seems probable however that its effects in this way have been somewhat over rated, as it is found very frequently to fail as an emmenagogue, though this, in some measure, may be ascribed to the smallness of the dose in which it has been usually prescribed by physicians; for Dr. Cullen observes, "that "Savin is a very acrid and heating substance, and I have been often "upon account of these qualities, prevented from employing it in "the quantity perhaps necessary to render it emmenagogue. I must "own however that it shows a more powerful determination to the "uterus than any other plant I have employed; but I have been "frequently disappointed in this, and its heating qualities always "require a great deal of caution."[f] Dr. Home appears to have had very great success with this medicine, for in five cases of amenorrhœa which occurred at the Royal infirmary at Edinburgh, four were cured by the Sabina,[g] which he gave in powder from a scruple to a dram twice a day. He says it is well suited to the debile, but improper in plethoric habits, and therefore orders repeated bleedings before its exhibition. Externally Savin is recommended as an escharotic to foul ulcers, syphilitic warts, &c.[h]

[d] Bergius states its *virtus* to be emmenagoga, abortiens, diuretica, sanguinem movens. *Mat. Med. p.* 814.

[e] Hinc in uterino fluxu ciendo adeo potens, qua vi abusæ subinde feruntur communi fere effato, a Galeno inde tempore deducto, scelestæ matres ad abortum excitandum, sed haud absque proprio vitæ periculo vel ante partum vel mox post istum. (Storch *Hebammenb. p.* 220.) Suspectæ huic naturæ subscripsit judicium Facultatis medicæ Lipsiensis. (Ammann. *med. crit. p.* 42. See Murray *App. Med. vol. i. p.* 42. And Haller l. c.

[f] *M. M. vol. ii. p.* 366. [g] Clinical Exper .p. 387. [h] Fabre, *Mal. vener. T. i. p.* 365.

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JUNIPERUS COMMUNIS. COMMON JUNIPER.

SYNONYMA. Juniperus. *Pharm. Lond. & Edinb.* Juniperus vulgaris fruticosa. *Bauh. Pin. p.* 488. Juniperus vulgaris. *Park. Theat. p.* 1028. *Gerard. Emac. p.* 1372. *Raii Hist. p.* 1411. *Synop. p.* 44. Juniperus foliis convexo-concavis, aristatis, baccis alaribus, sessilibus. *Hal. Stirp. Helv. n.* 1661. *Huds. Flor. Ang. p.* 436. *Wither. Bot. Arrang. p.* 1129. *Mill. illust. ic.*

β Juniperus foliis ternis patentibus, acutioribus, ramis erectioribus, bacca longioribus. *Mill. Dict.* Swedish Juniper.

γ Juniperus minor montana, folio latiore, fructuque longiore. *Bauh. Pin.* 489. Procumbent Juniper.

Sp. Ch. J. foliis ternis patentibus mucronatis bacca longioribus.

THIS species usually rises much higher than the Sabina; it is covered with brownish bark, and divides into many branches: the leaves are very numerous, long, narrow, pointed, of a deep green colour, and stand in ternaries: the flowers are male and female on different plants, and answer to the description of those which we have given of juniperus Sabina:[a] the berries continue two years upon the tree before they become perfectly ripe, when they are of a blackish colour, round, filled with a brownish pulp, and each contain three irregular hard seeds. It grows in several heathy parts of England, and flowers in May.

[a] Of the Sabina we ought to have remarked, that the essential oil and the watery extract, are kept in the shops, and that it is an ingredient in the pulv. e. myrrha compositus.

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Juniper is supposed to be the ἄρκευθος of the ancients,‖ who distinguished it into two kinds.[b] Both the tops and berries of this plant are directed for use in our Pharmacopœias, but the latter are usually preferred, and are brought to us chiefly from Holland and Italy. "They have a moderately strong not disagreeable smell, and a warm pungent sweetish taste, which if they are long chewed or previously well bruised, is followed by a considerable bitterness. The sweetness appears to reside in the juice or soft pulpy part of the berry; the bitterness, in the seeds; and the aromatic flavour, in oily vesicles, spread throughout the substance both of the pulp and the seeds, and distinguishable even by the eye. The fresh berries yield, on expression, a rich sweet honey-like aromatic juice; if previously powdered so as to thoroughly break the seeds, which is not done without great difficulty, the juice proves tart and bitter. The same differences are observable also in tinctures and infusions made from the dry berries, according as the berry is taken entire or thoroughly bruised. They give out nearly all their virtue both to water and rectified spirit. Distilled with water they yield a yellowish essential oil, very subtile and pungent, in smell greatly resembling the berries, in quantity (if they have been sufficiently bruised) about one ounce from forty: the decoction inspissated to the consistence of a rob or extract, has a pleasant, balsamic, sweet taste, with a greater or less degree of bitterishness. A part of the flavour of the berries arises also in distillation with rectified spirit: the inspissated tincture consists of two distinct substances; one oily and sweet; the other tenacious, resinous, and aromatic."[c]

‖ The odour of the Juniper-tree, though extremely fragrant, was by Virgil, thought to be noxious:

Surgamus; solet esse gravis cantantibus umbra:
Juniperi gravis umbra: nocent & frugibus umbræ.
ECL. x. v. 75.

[b] See *Pliny. Lib. xvi. cap.* 25. Gum Sandrach, known also by the name of pounce, is the product of this species of Juniper: it exudes through the crevices of the bark, or the perforations made by insects. [c] *Lewis Mat. Med. p.* 362.

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These berries are chiefly used for their diuretic effects; they are also considered to be stomachic, carminative, and diaphoretic.—Of the efficacy of Juniper berries in many hydropical affections, we have various relations by physicians of great authority, as Du Verney, Hoffman, Boerhaave, and his illustrious commentator, Baron Van Swieten, &c. Authors however seem not to be perfectly agreed which preparation of the Juniper is most efficacious, many prefer the rob or inspissated decoction, but Dr. Cullen observes,* that this is an inert medicine, alleging that to the essential oil, which is much the same as that of turpentine, only of a more agreeable odour, he thinks all the virtues ascribed to the different parts of Juniper are to be referred. Hoffman, on the contrary, strongly recommends the rob, and declares it to be of great use in debility of the stomach and intestines; and he experienced it to be particularly serviceable to such old people as are subject to these disorders or labour under a difficulty with regard to the urinary excretion; from hence it appears, that the berries still retain medicinal powers, though deprived of the stimulating effects of the essential oil.[d] But as the Juniper is now seldom if ever relied upon for the cure of dropsies, and only called to the aid of more powerful remedies, it is justly observed by a modern author, that "perhaps one of the best forms under which the berries can be used is that of a simple infusion. This either by itself, or with the addition of a little gin, is a very useful drink for hydropic patients."[e] Medical writers have also spoken of the utility of Juniper in nephritic cases, uterine obstructions, scorbutic affections, and some cutaneous diseases, and in the two last mentioned complaints, the wood and tops of the

* *M. M. vol. ii. p.* 187.

[d] Van Swieten prescribed the following formula: ℞. Rob. Bacc. Junip. ℥ii. dilue in aquæ Junip. ℔ii. add. spirit. bacc. Junip. ℥ii. Quandoque spiritus nitri dulcis ℥ss ad sitim sedandam additur. *Comment. in Boerh. aph. T. 4. p.* 258. Of this mixture one or two ounces were givin every three hours.

[e] Duncan *New Ed. Dispens. p.* 214.

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plant are said to have been employed with more advantage than the berries.[f]

We are told by Linnæus,[g] that the Laplanders drink infusions of the Juniper berries as we do tea and coffee, and that the Swedes prepare a beer from them, in great estimation for its diuretic and antiscorbutic qualities. Our Pharmacopœias direct the essential oil and a spirituous distillation of the Juniper berries, to be kept in the shops: the former, in doses of two or three drops, is found to be an active and stimulating medicine; the latter contains this oil, and that of some other aromatic seeds united to the spirit, and therefore differs not considerably from the genuine geneva imported from Holland; but there is great reason to believe, that the gin usually sold here is frequently nothing but the frumentaceous spirit, imbued with turpentine, or other materials to give it a flavour.

JUNIPERUS LYCIA. LYCIAN JUNIPER, or CEDAR.

Olibanum. *Pharm. Lond. & Edinb.*

SYNONYMA. Cedrus folio cupressi media majoribus baccis. *Bauh. Pin. p.* 487. Cedrus phœnicia altera Plinii & Theophrasti. *Lob. Icon.* 221. *Du Hamel, Arbres, T.* 1. *p.* 140. *V. Pallas Ross.* 1. 2. *t.* 56. *f.* 1.

Sp. Ch. J. foliis ternis undique imbricatis ovatis obtusis.

THIS species rises but to an inconsiderable height, sending off erect branches, covered with brown bark: the leaves are small, round, blunt, variously divided, and every where remarkably imbricated with small close scales: the flowers are male and female on different plants, and accord with the description which we have

[f] Bergius says, "Virtus: *ligni & summitat* diuretica, sudorifera, mundificans. *Bacca* diuretica, nutriens, diaphoretica." *M. M. p.* 810.

[g] Flor. Lapp. p. 301. They are likewise known to afford a pleasant wine. See Du Hamel, *Arbres, T. i. p.* 325.

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already given of the Juniperus Sabina: the berries are large, and when ripe of a dark brown colour.

It is a native of the South of Europe, and very scarce in this country; for that species called Lycia by the gardeners here, has not the scaly appearance represented in the plate before us, which was drawn from a specimen in the Herbarium of Sir Joseph Banks.

The officinal gummy resinous substance, known by the name of Olibanum, is said to ouze spontaneously from the bark of this tree, appearing in drops or tears, of a pale yellowish, and sometimes of a reddish colour.* "Olibanum has a moderately strong and not very agreeable smell, and a bitterish somewhat pungent taste: in chewing it sticks to the teeth, becomes white, and renders the saliva milky. Laid on a red-hot iron, it readily catches flame, and burns with a strong diffusive and not unpleasant smell. On trituration with water, the greatest part of it dissolves into a milky liquor, which on standing deposits a portion of resinous matter."[a] The gummy and resinous parts are nearly in equal proportions; and though rectified spirit dissolves less of the Olibanum than water, it extracts nearly all its active matter. It is brought from Turkey, and from the East Indies; but that which comes from India is less esteemed.

In ancient times Olibanum seems to have been in great repute,[b] and was chiefly used in affections of the head and breast, coughs, hæmoptysis, and in various fluxes both uterine and intestinal: it was also much employed externally. Riverius found it of great efficacy in pleurisies, which were said to be epidemic; and Geoffroy[c] likewise experienced its success in these diseases, especially after venesection; at present, however, recourse is seldom had to this medicine, which is now superseded by myrrh, and other articles of a less stimulating kind.

* This drug has received different appellations according to its different appearances: the single tears are called simply *olibanum*, or *thus*: when two are joined together, *thus masculum*; and when two are very large, *thus femininum*: if several adhere to the bark, *thus corticosum*: the fine powder, which rubs off from the tears, *mica thuris*; and the coarser *manna thuris*.

[a] *Lewis, M. M. p.* 460.

[b] It is the λιβανος of Theophrastus & Dioscorides, λιβανωτος of Hippocrates.

[c] *Mat. Med. Traité. T.* 4. *p.* 71.

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ORD. II. AMENTACEÆ.

From *Amentum* (ab αμμα, vinculum, a bond or thong) in English Catkin; a term used by Linnæus to denote a species of calyx which is confined to certain trees and shrubs.

SALIX FRAGILIS. CRACK WILLOW.

SYNONYMA. Salix. *Pharm. Edinb.* Salix folio longo latoque splendente, fragilis. *Raii Synop. p.* 448. Salix Fragilis. *Bauh. Pin. p.* 474. *Hall. Stirp. Helv. n.* 1638. *Huds. Flor. Ang. p.* 426. *Wither. Bot. Arr. p.* 1102. *Relh. Flor. Cant. p.* 365. *Flor. Lap. t.* 8. *f.* 6. *Hunter's Evelyn's Sylva, p.* 245.

Class Dioecia. *Ord.* Diandria. *Lin. Gen. Plant.* 1098.

Ess. Gen. Ch. Masc. Amenti squamæ. *Cor.* 0. *Glandula* baseos nectarifera.

Fem. Amenti squamæ. *Cor.* 0. *Stylus* 2-fidus *Caps.* 1-locularis, 2-valvis. *Sem.* papposa.

Sp. Ch. S. foliis serratis glabris ovato-lanceolatis, petiolis dentato-glandulosis.

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THIS species grows to a considerable height, sending off large branches, and is covered with wrinkled bark of a grey colour: the leaves are long, narrow, ovate, or lance-shaped, serrated, and placed upon footstalks, which are furnished with glandular teeth: the flowers are male and female upon different trees, and produced in catkins: the calyx, or common catkin of the male flower, is oblong, imbricated, inclosed by an involucrum formed of a bud, and consisting of scales, which are oblong, flat, expanding, and unifloral: there is no corolla: the nectarium is a small cylindrical truncated gland, containing honey, and placed in the centre of the flower: the filaments are two, straight, filiform, longer than the calyx, and furnished with double antheræ of four cells: in the female flower the scaly catkin resembles that of the male: the germen is egg-shaped, tapering, so as to leave no distinct style, and is longer than the scales: the stigmata are two, bifid and erect: the capsule is ovate, one-celled, and furnished with two valves, which roll back: the seeds are numerous, egg-shaped, very small, and crowned with a simple hairy pappus. The flowers appear in April and May.

This tree, which grows in hedges and about the banks of rivers in several parts of England, is easily to be distinguished from the other species of willow, by the readiness with which it breaks at the year's shoot last made upon being slightly struck with the finger; and hence the name *fragilis.*

The bark of the branches of this tree manifests a considerable degree of bitterness to the taste, and is also astringent; hence it has been thought a good substitute for the Peruvian bark, and upon trial was found to stop the paroxysms of intermittents:[a] it is likewise recommended in other cases requiring tonic or astringent

[a] See *Gerhard. Mat. Med. p.* 301. *Phil. Trans. vol.* 53. *p.* 195. And *Medical Comment. vol.* 5. *p.* 298. Instances of the efficacy of Willow bark are also related by Clossius *(nov. variol. Med. Meth. p.* 128.*)* And Gunz. *Diss. binæ de cortice salicis. Lips.* 1772.

With Bergius however this bark did not succeed. He says, Ego hunc corticem in febribus intermittentibus iterum iterumque exhibui, sed irrito conatu.

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remedies. Not only the bark of this species of Salix, but that of several others, possess similar qualities, particularly of the Salix alba and S. pentandria, both of which are recommended in the foreign pharmacopœias. But in our opinion the bark of the S. triandria is more effectual than that of any other of this genus; at least its sensible qualities give it a decided preference.

JUGLANS REGIA. COMMON WALNUT-TREE.

SYNONYMA. Juglans. *Pharm. Lond.* Nux Juglans sive regia vulgaris. *Bauh. Pin. p.* 417. *Tourn. Inst. p.* 501. Nux Juglans. *Gerard. Emac. p.* 1440. *Raii Hist. p.* 1376. *J. Bauh. Hist. vol. i. p.* 241. Nux Juglans vulgaris. *Park. Theat. p.* 1413. Juglans foliis septenis, ovato-lanceolatis, integerrimis. *Hal. Stirp. Helv. n.* 1624. Juglans Regia. *Ic. Mill. Illust. Cramer Forstwesen. tab.* 22. *Du Ham. Arb.* 2. *p.* 50. *t.* 13. *Hunt. Evel.*

Class Monoecia. *Ord.* Polyandria. *Lin. Gen. Plant. p.* 1071.

Ess. Gen. Ch. *Masc. Cal.* 1-phyllus, squamiformis. *Cor.* 6-partita. *Filamenta,* 18.

Fem. Cal. 4-fidus, superus. *Cor.* 4-partita. *Styli* 2. *Drupa,* nucleo sulcato.

Sp. Ch. J. foliolis ovalibus glabris subserratis subæqualibus.

THIS is a large tree, and usually sends off many strong spreading branches, covered with a greyish bark: the leaves are large, pinnated, composed of several pairs of opposite pinnæ, with an odd one at the end; they are oval, entire, nerved, veined, pointed, of a pale green

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colour, and stand upon short footstalks: the flowers are male and female upon the same tree, appearing in April and May, and the fruit ripens about the end of September: the *male flowers* are placed in a close cylindrical catkin: the calyx is monophyllous and squamous: the corolla is divided into six oval petals: the filaments are numerous, (about eighteen) short, and furnished with erect pointed antheræ: the *female flowers* are generally three together: the calyx is divided into four segments, which are erect, short, evanescent, and stand upon the germen: the corolla is separated into four segments, which are pointed, erect, and longer than the calyx: the germen is oval, and placed below the corolla: the two styles are very short: the stigmata are large, expanding, reflexed, and indented: the fruit is of the drupous kind, large, unilocular, containing a large roundish nut, which is too well known to require a description here.

This tree, which is a native of Persia, has been long cultivated in this country, and bears our winters very well. Linneus describes its leaves as somewhat serrated; but this we have never observed, and therefore with Haller would rather substitute the word integerrimis for subserratis. The wood is of a dark colour, and beautifully variegated, especially that of the root, and by being hard enough to admit of polishing, was much used by Cabinet-makers before the introduction of mahogany.

The unripe fruit,[a] which has an astringent bitterish taste, and has been long used as a pickle, is the part directed for medicinal use by the London College, on account of its anthelmintic virtues. Its effects in destroying worms seem confirmed by the testimony of several authors:[b] and in proof of its possessing this vermifuge power, we are told that water, in which the green shells of Walnuts have

[a] We may notice for curiosity a notion which formerly prevailed: Ut nuces in proximum annum copiosiùs proveniant, mos est hodie apud rusticos quosdam, ut nuces perticis decutiantur. Hinc non inconcinnè quidam alludendo cecinit,

Nux, asinus, mulier simili sunt lege ligata;
Hæc tria nil fructûs faciunt, si verbera cessant. Vide *Ray, l. c.*

[b] Plater, Fischer, Andry, and others.

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been macerated, on being poured in a garden, was found to drive all the earth worms together as far as the water extended,[c] and that the worms by being immersed in a strong infusion of these shells were immediately seized with spasms, and died in two minutes afterwards.[d] An extract of the green fruit is the most convenient preparation, as it may be kept for a sufficient length of time, and made agreeable to the stomach of the patient by mixing it with cinnamon-water. This fruit, in its immature state, is also said to be laxative,[e] and of use in apthous affections and sore throats.* To answer these purposes, the Wirtemberg Pharm. directs a rob to be prepared of its juice.

The kernel of the Walnut[f] is similar in qualities to that of the almond and hazel-nut, and affords an oil which amounts to half the weight of the kernel: according to De la Hire,[g] this oil does not congeal by cold, and answers the medicinal purposes of the oil of almonds.

[c] Car. Stephan. *Agricult. lib.* 3. *c.* 13. Andry, *Generation des vers. p.* 142. J. G. Fischer, *Comm. de vermibus in C. H. et anthelmintico. Stadæ.* 1751. *p.* 14.

[d] Fischer, *l. c.* [e] Bergius, *M. M. p.* 744.

* Vinegar, in which Walnuts have been pickled, we have found to be a very useful gargle.

[f] *De la Glace. p.* 499.

[g] According to the Salernitan maxim, nuts, eaten after fish, promote digestion.

"Post pisces nux sit, post carnes caseus esto."

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QUERCUS ROBUR. COMMON OAK.

SYNONYMA. Quercus. *Pharm. Lond. & Edinb.* Quercus cum longo pediculo. *Bauh. Pin. p.* 420. Quercus vulgaris. *Gerard Emac. p.* 1340. Quercus latifolia. *Park. Theat. p.* 1386. Quercus vulgaris longis pediculis. *J. Bauh. Hist. vol. i. p.* 70. *Raii Hist. p.* 1385. *Synop. p.* 440. Quercus Robur. *Evel. Sylv.* by *Hunter, ed.* 2. *p.* 67. *Du Roy, Baumz. t. ii. p.* 236. *Huds. Ang. p.* 421. *Withering, Bot. Arr. p.* 1083. *Hall. Stirp. Helv. n.* 1626.

α Arborea, pedunculis elongatis (pedunculata) *Aiton, Hort. Kew. Female Oak Tree.*

β Arborea, fructibus subsessilibus (sessilis) *Aiton, Hort. Kew. Common Oak Tree.*

γ Frutescens, ramis virgatis, fructibus sessilibus (humilis) *Aiton. l. c. Dwarf Common Oak Tree.*

Class Monoecia. *Ord.* Polyandria. *Lin. Gen. Plant.* 1070.

Ess. Gen. Ch. *Masc. Cal.* 5-fidus fere. *Cor.* 0. *Stam.* 5-10. *Fem. Cal.* 1-phyllus, integerrimus, scaber. *Cor.* 0. *Styli* 2-5. *Sem.* 1, ovatum.

Sp. Ch. Q. foliis oblongis glabris sinuatis: lobis rotundatis, glandibus oblongis. *Aiton. Hort. Kew.*

THIS tree frequently rises to a very considerable height,* sends off

* An Oak tree, in the parish of Little Shelsley, Worcestershire, measured in circumference, at about two yards from the ground, 22 feet 4 inches, and close to the ground nearly 48 feet, (Hollefear).—Of one growing in 1764, in Broomfield Wood, near Ludlow, Shropshire, the trunk measured 68 feet in girth, and 23 in length: this tree, allowing 90 square feet for the larger branches, contained 1455 feet of thick timber. (Lightfoot).—The girth of the Green Dale Oak, near Welbeck, at eleven feet from the ground, was 38 feet; and one growing at Cowthorpe, near Wetherby, Yorkshire, measured 78 feet in circumference close to the ground. (Hunt. Evel.) See *Withering, l. c.*

This reminds us of the Oak alluded to by Virgil:

——————— & quantùm vertice ad auras
Ætherias, tantùm radice in Tartara tendit. *Æn. l. iv.* 445.

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strong branches, and is covered with rough brown bark: the leaves are oblong, broader towards the end, deeply cut or sinuated at the edges, forming obtuse lobes, and stand upon short footstalks: the flowers are very small, and are male and female upon the same tree: the calyx of the *male flowers* is divided into five, six, or seven segments, which are pointed, and often cloven: there is no corolla; the filaments are from five to ten, and supplied with large double antheræ: the calyx of the *female flower* is membranous, hemispherical, and composed of numerous imbricated pointed segments: there is no corolla: the germen is oval: the styles from two to five, and furnished with simple permanent stigmata: its fruit is a nut, which is oblong, fixed to a short cup, and ripens in October, but the flowers appear in April.

This valuable tree is well known to be a native of Britain, where it has in some instances acquired an extraordinary magnitude: its wood is of general use in carpentry, and by uniting hardness with such a degree of toughness as not easily to splinter, has been long justly preferred for the purpose of building ships.[b]

The astringent effects of the Oak were sufficiently known to the ancients, by whom different parts of the tree were used; but it is the bark which is now directed for medicinal use by our pharmacopœias. To this tree we may also refer the Gallæ, or Galls, which are produced from its leaves by means of a certain insect.

Oak bark manifests to the taste a strong astringency, accompanied with a moderate bitterness, qualities which are extracted both by water and by rectified spirit. Its universal use and preference in the tanning of leather is a proof of its great astringency, and like other astringents it has been recommended in agues, and for restraining hæmorrhagies, alvine fluxes, and other immoderate evacuations. A

[b] Oak saw-dust is the principal indigenous vegetable used in dying fustain. All the varieties of drabs, and different shades of brown, are made with oak saw-dust, variously managed and compounded. Oak apples are likewise used in dying, as a substitute for galls. An infusion of the bark, with a small quantity of copperas, is used by the common people to dye woollen of a purplish blue, which is sufficiently durable. *Withering, l. c.*

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decoction of it has likewise been advantageously employed as a gargle, and as a fomentation or lotion in procidentia recti et uteri. Dr. Cullen tells us, that he has frequently employed the decoction with success in slight tumefactions of the mucous membrane of the fauces, and in many prolapsus uvulæ, and cynanche tonsillaris, to which some people are liable upon the least exposure to cold: and in many cases this decoction, early applied, has appeared useful in preventing these disorders. It must be remarked however, that the Dr. almost constantly added a portion of alum to these decoctions.[c]

Some have supposed that this bark is not less efficacious than that of the Cinchona, especially in the form of extract; but this opinion now obtains little credit, though there be no doubt that Oak bark may have the power of curing intermittents.[d]

Galls, which in the warm climate of the East are found upon the leaves of this tree, are occasioned by a small insect, with four wings, called *Cynips querci folii,* which deposits an egg in the substance of the leaf, by making a small perforation through the under surface. The ball presently begins to grow, and the egg in the centre of it changes to a worm; this worm again changes to a nymph, and the nymph to the flying insect above mentioned,* which by eating its passage out leaves a round hole: and those galls which have no holes, are found to have the dead insect remaining in them.

[c] Dr. Cullen tried also a solution of the alum alone, "but it did not prove so effectual." See *Mat. Med. vol. ii. p.* 45.

[d] "I have employed the Oak bark in powder, giving it to the quantity of half a dram every two or three hours during the intermissions of a fever; and, both by itself, and joined with camomile flowers, have prevented the return of the paroxysms of intermittents." *Cullen, l. c.*

* Many other excrescences are produced on this tree, and the insects which inhabit it are very numerous. For an enumeration of these, see *Withering, l. c.*

The Oak in some parts of the East distils a species of manna, so that the words of Virgil seem literally verified: —

"Et duræ quercus sudabunt roscida mella." *Ecl. iv.* 30.

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Two sorts of galls are distinguished in the shops, one said to be brought from Aleppo, the other from the southern parts of Europe. The former are generally of a bluish colour, or of a greyish, or black, verging to blueness, unequal and warty on the surface, hard to break, and of a close compact texture: the others are of a light brownish or whitish colour, smooth, round, easily broken, less compact, and of a much larger size. The two sorts differ only in strength, two of the blue galls being supposed equivalent in this respect to three of the others.[e]

Galls appear to be the most powerful of the vegetable astringents, striking a deep black when mixed with a solution of ferrum vitriolatum, and therefore preferred to every other substance for the purpose of making ink. As a medicine, they are to be considered as applicable to the same indications as the Oak bark, and by possessing a greater degree of astringent and styptic power, seem to have an advantage over it and to be better suited for external use. Reduced to fine powder, and made into an ointment, they have been found of great service in hæmorrhoidal affections.[f] Their efficacy in intermittent fevers was tried by Mr. Poupart, by order of the Academy of Sciences, and from his report it appears, that the Galls succeeded in many cases; and also that they failed in many other cases, which were afterwards cured by the Peruvian bark.[g]

[e] *Lewis, M. M.* [f] See *Cullen, l. c.* [g] See *Mem. pour l'an.* 1702.

PISTACIA LENTISCUS. MASTICH TREE.

Ex qua fluit *Mastiche. Pharm. Lond. & Edinb.*

SYNONYMA. Lentiscus vulgaris. *Bauh. Pin. p.* 399. *Tournf. Inst. p.* 580. Lentiscus. *Clus. Hist. i. p.* 14. *Dod. Pempt. p.* 871. *Du Hamel. Arb. t. i. tab.* 136. *Conf. Tournef. Voyage du Levant. p.* 144.

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β Pistacia *massiliensis*, foliis abrupte pinnatis: foliolis lineari-lanceolatis. *Mill. Dict.*

Narrow-leaved Mastich Tree. *Aiton. Hort. Kew.*

Class Dioecia. *Ord.* Pentandria. *Lin. Gen. Plant.* 1108.

Ess. Gen. Ch. *Masc.* Amenti. *Cal.* 5-fidus. *Cor.* 0. *Fem.* distincta. *Cal.* 3-fidus. *Cor.* 0. *Styli* 2. *Drupa* monosperma.

Sp. Ch. P. foliis abrupte pinnatis: foliolis lanceolatis.

THIS tree, which seldom exceeds a foot in diameter, rises ten or twelve feet in height; it is covered with a smooth brown bark, and towards the top sends off numerous branches: the leaves are regularly pinnated, and consist of several pairs of narrow ovate opposite pinnæ, closely attached to the common footstalk, which is winged or supplied with a narrow foliaceous expansion: the male flowers are placed in an amentum or open catkin: the calyx (proper) is divided into five minute ovate segments: the filaments are five, sometimes four, very short: the antheræ are large, brown, erect, and of a quadrangular form: the female flowers, like those of the male, have no corolla, and are placed upon the common peduncle in alternate order: the calyx consists of three small squamous segments: the germen is egg-shaped, larger than the calyx, and supports two or three styles, terminated by reflexed clubbed stigmata: the fruit is of the drupous kind, containing an egg-shaped smooth nut. The flowers appear in May, and the fruit ripens in August.

This tree, which is a native of the South of Europe and the Levant, appears by Evelyn's Kalendarium Hortense to have been cultivated in Britain in 1664;* but in this country it is of slow vegetation, and seldom healthy enough to give us a competent idea of the plant in its natural situation, so that we have been enabled to publish

* See *Aiton's Hort. Kew.*

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a more correct figure of the Lentiscus, from a dried specimen of it in the Linnean Herbarium, than could have been done from the living plant as found in any of the gardens in the vicinity of London.[b]

In the island of Chio, the officinal Mastich is obtained most abundantly, and, according to Tournefort,[c] by making transverse incisions in the bark of the tree; from whence the Mastich exudes in drops, which are suffered to run down to the ground, when, after sufficient time is allowed for their concretion, they are collected for use. The time chosen for making these incisions is the first of August, when the weather is very dry; on the following day the Mastich begins to appear in drops, which continue to exude till the latter end of September.[d]

Mastich is a resinous substance, brought to us in small yellowish transparent brittle grains or tears: "it has a light agreeable smell, especially when rubbed or heated: on being chewed, it first crumbles, soon after sticks together, and becomes soft and white, like wax, without impressing any considerable taste. It totally dissolves, except the earthly impurities, which are commonly in no great quantity, in rectified spirit of wine, and then discovers a degree of warmth and bitterness, and a stronger smell than that of the resin in substance. Boiled in water, it impregnates the liquor with its smell, but gives out little or nothing of its substance; distilled with water, it yields a small proportion of a limpid essential oil, in smell very fragrant, and in taste moderately pungent. Rectified spirit brings over also in distillation, the more volatile odorous matter of the Mastich."[e]

[b] The only tree of this species which we have observed to flower in England, is a male plant in the Apothecaries garden at Chelsea, where many rare and valuable plants have been long successfully cultivated.

[c] *Voyage du Levant. t. i. p.* 44. See also Du Hamel, *l. c.* De la Motraye, *Voyage &c. t. i. p.* 190. *Thevenot's Levant, p.* 180. Hasselquist *Resa. p.* 532.

[d] Vers le fin de Septembre les mêmes incisions fournissent encore du Mastic, mais en moindre quantité. *Tourn. l. c.*

[e] *Lewis, M. M. p.* 413.

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It is a common practice with the Turkish women to chew this resin, especially in the morning, not only to render their breath more agreeable, but to whiten the teeth, and strengthen the gums;[f] they also mix it with their fragrant waters, and burn it with other odoriferous substances in the way of fumigation.

As a medicine, Mastich is considered to be a mild corroborant and astringent; and as possessing a balsamic power, it has been recommended in hæmoptysis, proceeding from ulceration, fluor albus, debility of the stomach, and in diarrhœas and internal ulcers.[g] Chewing this drug has likewise been said to have been of use in pains of the teeth and gums, and in some catarrhal complaints; it is now however seldom used either externally or internally.

The LENTISCI *lignum*, or wood of this tree, is received into the Materia Medica of some of the Foreign Pharmacopœias, and is highly extolled in dyspeptic, gouty, hæmorrhagic, and dysenteric affections.[h]

[f] *Lib. cit.*

[g] Degner *(de dysenteria. p.* 201.*)* gave it successfully in these complaints, in doses of ten grains to a scruple, both in substance and in the way of emulsion.

[h] See *Ephem. Nat. Cur. Dec.* 3. *A.* 9. 10. *Obs.* 135. where it is dignified with the title of vegetable aurum potabile.

PISTACIA TEREBINTHUS. CHIAN or CYPRUS TURPENTINE TREE.

Ex qua fluit Terebinthina chia. *Pharm. Lond.*

SYNONYMA. Terebinthus vulgaris. *Bauh. Pin. p.* 400. *Tournef. Inst. p.* 579. Terebinthus. *Clus. Hist. p.* 15. *Dod. Pempt. p.* 871. *Gerard. Emac. p.* 1433. *Raii Hist. p.* 1577 Terebinthus angustiore folio vulgatior. *Park. Theat. p.* 1526. Ic. *Du Hamel Arbres. t.* 2. *tab.* 87.

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Class Dioecia. *Ord.* Pentandria. *Lin. Gen. Plant.* 1108.

Ess. Gen. Ch. *Masc.* Amenti. *Cal.* 5-fidus. *Cor.* 0.

Fem. Distincta. *Cal.* 3-fidus. *Cor.* 0. *Styli* 2. *Drupa* monosperma.

Sp. Ch. P. foliis impari-pinnatis: foliolis ovato lanceolatis.

THIS is a much larger tree than the preceding species; it sends off many long spreading branches,* and is covered with smooth bark: the leaves are pinnated, consisting of ovate lance-shaped, veined, entire, opposite pinnæ, with an odd one at the end: the flowers are male and female on different trees, and in their essential parts correspond with the description given of those of the P. Lentiscus. It is a native of Barbary and the South of Europe, and has been cultivated in Britain more than sixty years.† It is more hardy than the P. Lentiscus, and if planted against a wall, it bears our winters very well.

Cyprus, or Chian Turpentine, which this tree furnishes, is procured by wounding the bark of the trunk of the tree, in several places, in the month of July, leaving a space of about three inches between each wound; from these the Turpentine issues, and is received upon stones, which are placed at the bottom of the tree for this purpose, and upon which it becomes so much condensed by the coldness of the night, as to admit of being scraped off with a knife in the morning, which is always to be done before the sun rises: after this, in order to free it of all extraneous admixture, it is again liquified by the sun's heat, and passed through a strainer, when it is

* Le Brun tells us that it was "le Terebinthe qui se courba pour donner plus d'ombre à la S. Vierge, lors qu'allant de Bethlehem à Jerusalem pour porter son Fils au Temple, elle se voulut reposer sous cet arbre." See *Voyage au Levant. p.* 284.

† See a Catalogue of Trees, Shrubs, &c. which are propagated for sale in the gardens near London, published in 1730, p. 78. Terebinthus i. *Aiton's. Hort. Kew.*

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fit for use.[a] The quantity of this Turpentine produced from each tree, is very inconsiderable, in so much that it has been observed that four large trees, sixty years old, whose trunks measured five feet in circumference, only yielded two pounds nine ounces and six drams; but in the eastern parts of the islands, the names of which this Turpentine bears, the trees afford somewhat more, though still so little as to render it very costly, and on this account it is commonly adulterated, especially with other Turpentines. The best Chio Turpentine is generally about the consistence of thick honey, very tenacious, clear, and almost transparent; of a white colour, inclining to yellow, and a fragrant smell, moderately warm to the taste, but free from acrimony and bitterness. The medicinal and other qualities of the Turpentines will be considered together under the species of Pinus. See Index.

[a] See Du Hamel, *l. c. p.* 308. and Tournefort, *Voyage du Levant. t. i. p.* 145.

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ORD. III. COMPOSITÆ.

This Order comprehends those plants which bear compound flowers, or a number of florets formed into one head, within a common calyx, and placed upon the same receptacle.

ARCTIUM LAPPA. BURDOCK.

SYNONYMA. Bardana. *Pharm. Lond. & Edinb.* Lappa. *Hal. Stirp. Helv.* n. 161. Lappa seu Personata. *Raii Hist.* p. 332. Lappa Major, Arctium Dioscoridis. *Bauh. Pin.* 198. Personata. *Camerar Epit.* 887. Bardana major. *Ger. emac.* 809. Arctium Lappa. *Huds.* 348. *Withering.* 694. *Smith.* 844. *Curt. Flor. Lond. Relhan Cant.* 302. *Withering. B. A.* 163. Αρκιον, Αρκιλον *Græcor.* Varietates sic se habent. *Hort. Kew.* vol. 3. p. 136.

α Lappa major capitulo glabro maximo. *Raii Syn.* 196.
Smooth-headed Common Burdock.

β Lappa major montana, capitulis tomentosis. *Bauh. Pin.* 198.
Woolly-headed Burdock.

Class Syngenesia. *Ord.* Polygamia Æqualis. *L. Gen. Pl.* 923.

Ess. Gen. Ch. Cal. globosus: squamis apice hamis inflexis.

Sp. Ch. A. foliis cordatis inermibus petiolatis.

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THE root is biennial, subcylindrical, long, simple, externally of a dark brown colour, internally white, and sends off many slender fibres: the stalk is erect, roundish, grooved, villous, purplish, above an inch in diameter, three feet high, and alternately branched: the leaves are alternate, patent, heart-shaped, veiny, above of a dark green colour, underneath whitish; the lower leaves are very large, and stand upon long footstalks, which are grooved like the stem: the calyx is common to all the florets, imbricated, globular, the exterior scales are entangled in fine woolly threads, firm, elastic, and their extremities are polished and hooked; the flowers are numerous, disposed in heads, and stand alternately upon footstalks on the branches; the corolla is compound, the florets purple, tubular, each having the limb divided into five pointed segments; the stamina are five, white, and filiform; the antheræ unite into a tube, are of a bluish colour, and project beyond the corolla; the germen is somewhat triangular, the styles white, and longer than the stamina, and the stigma bifid: the seeds are oblong, brown, and have irregular rough surfaces.

This plant is common in waste grounds and road sides; it flowers in July and August, and is well known by the burs, or scaly heads, which stick to the clothes, a circumstance from whence the word Lappa is supposed to be derived.‡ The Pharmacopœias direct the root for medicinal use: it has no smell, but tastes sweetish, and mixed as it were with a slight bitterishness and roughness. Its virtue, according to Bergius, is mundificans, diuretica, diaphoretica;[a] and many instances are upon record in which it has been successfully employed in a great variety of chronic diseases, as scurvy, rheumatism, gout, lues venerea, and pulmonic complaints.[b] We have never had an opportunity of observing the effects of this root, except as a

‡ Lappa dici potest vel ἀπο τῦ λαβειν prehendere vel λεπτειν lambere. Ray, l. c.

[a] Mat. Med. 653. [b] Henricus III. Galliarum Rex, a Petro Penà decocto radicum Lappæ ab hac lue sanatus fuit. Vide Reverius, Obs. 41.

The young stems of this plant, stripped of their rind, are boiled and eat like asparagus. When raw, they are good with oil and vinegar. Withering, 864. l. c.

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diuretic, and in this way we have known it succeed in two dropsical cases, where other powerful medicines had been ineffectually used: and as it neither excites nausea nor increases irritation, it may occasionally deserve a trial where more active remedies are improper. The seeds also possess a diuretic quality, and have been given with advantage in the dose of a dram in calculous and nephritic complaints, and in the form of emulsion as a pectoral. The root is generally used in decoction, which may be made by boiling two ounces of the fresh root in three pints of water to two, which, when intended as a diuretic, should be taken in the course of two days, or if possible in twenty-four hours.

CENTAUREA BENEDICTA. BLESSED, or HOLY THISTLE.

SYNONYMA. Carduus benedictus. *Pharm. Lond. & Edinb. Gerard Emac. p.* 1171. *J. Bauh.* iii. 77. *Park. Parad. p.* 530. *Raii Hist.* 1303. *Dodon Pempt.* 725. *Camer. Epit.* 562. Cnicus sylvestris hirsutior sive Carduus benedictus. *Bauh. Pin.* 378.

Class Syngenesia. *Ord.* Polygamia frustranea. *Lin. Gen. Plant.* 984.

Ess. Gen. Ch. Recept. setosum. *Pappus* simplex. *Cor.* radii infundibuliformes, longiores, irregulares.

Sp. Ch. C. calycibus duplicato-spinosis lanatis involucratis, foliis semidecurrentibus denticulato-spinosis.

THE root is annual, cylindrical, whitish, branched, and furnished with several slender fibres: the stalk is erect, roundish, channelled, rough, from one to two feet high, and often branched towards the top: the leaves are long, elliptical, rough, runcinated, or variously serrated, and barbed with sharp points; above of a bright green colour, underneath whitish, and reticulated: the upper leaves are

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sessile, and on one side extend along the stalk, but the lower leaves stand upon footstalks: the flowers are enclosed by an involucrum of ten leaves, of these the five external ones are the largest: the calyx is oval, imbricated, smooth, woolly, and consists of several squamous coverings, terminated by rigid, pinnated, spinous points: the flowers are compound, or composed of several yellow florets; those at the circumference want the parts necessary to fructification, but those at the centre are hermaphrodite, tubular, unequally divided at the limb, and dentated at their upper extremities: the filaments are five, tapering, white, downy, and inserted in the base of the corolla: the antheræ are cylindrical, tubulous, brownish, striated, and somewhat longer than the corolla: the style is filiform, and of the same length as the stamina: the stigma is yellow and cloven: the seeds are oblong, brown, striated, bent, and crowned with a hairy wing or feather, similar to that of the receptacle. It is a native of Spain and the Levant, and flowers in June and September.

The first account of the cultivation of this plant in England is given by Gerard, in 1597, and it is now usually cultivated with other exotic medicinal simples. It has an intensely bitter taste, accompanied with an unpleasant smell, which it loses upon being well dried. "Cold water, poured on the dry leaves, extracts in an hour or two a light grateful bitterness: by standing long upon the plant the liquor becomes disagreeable. Rectified spirit in a short time extracts the lighter bitter of the Carduus, but does not take up the nauseous so easily as water."[a] The watery extract, by keeping, produces a salt upon its surface, which resembles nitre.[b]

This plant obtained the appellation of Benedictus, from its being supposed to possess extraordinary medicinal virtues; for exclusive of those qualities which are usually attributed to bitters, it was thought to be a very powerful alexipharmic, and capable of curing the plague, and other fevers of the most malignant kind;[c] but its

[a] Lewis Mat. Med. p. 195.

[b] Sal commune continere albi. Hist. de l'Acad. des Sc. de Berlin, 1747, p. 79.

[c] Matthiol. in Dioscor. p. 597.

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good effects in this way have now as little credit as those of its external use, by which cancers and carious bones are said to have been healed.[d] Bergius reports, that it is antacida, corroborans, stomachica, sudorifera, diuretica, eccoprotica; and that it is useful in Anorexia, Cachexia, Cephalalgia sympatica, Arthritis, Febres intermittentes. We might however, with equal propriety, attribute these virtues to many other simple bitters, from which the Carduus does not seem to be peculiarly different. In loss of appetite, where the stomach was injured by irregularities, the good effects of the Carduus have been frequently experienced.[e] Formerly it was a common practice to assist the operation of emetics, by drinking an infusion of the Carduus; but the flowers of chamomile have since been substituted for this purpose, and probably may be advantageously done for several others in which the Carduus is recommended. The seeds have also been employed in emulsion with the same intention as the leaves.

[d] J. Bauh. hist. tom. 3. p. 79. Arnold de Villa Nova *pract.* c. 44.

[e] Duncan Edinb. New Dispens.

ACHILLEA MILLEFOLIUM. COMMON YARROW; Or, MILFOIL.

SYNONYMA. Millefolium. *Pharm. Edinb.* Millefolium vulgare album. *Bauh. Pin. p.* 140. Millefolium terrestre vulgare. *Gerard. Emac. p.* 1072. Millefolium vulgare. *Park. Theat. p.* 693. *Raii Hist. p.* 345. *Synop. p.* 183. Achillea foliis pinnatis, pinnis longe æqualibus, pinnatis, pinnulis trifidis et quinquefidis. *Hal. Stirp. Helv. n.* 107. *A. M. Wither. Bot. Arrang. p.* 941. *Curtis Flor. Lond.* 6. *t.* 61. *Huds.* 374. *Smith. Fl. Brit.* 908.

Class Syngenesia. *Ord.* Polygamia Superflua. *Lin. Gen. Plant.* 971.

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Ess. Gen. Ch. *Recept.* paleaceum. *Pappus* nullus. *Cal.* ovatus imbricatus. *Flosculi* radii circiter quinque.

Sp. Ch. A. foliis bipinnatis nudis; laciniis linearibus dentatis; caulibus superne sulcatis.

THE root is perennial, creeping, round, and furnished with many whitish fibres:[a] the stalk is upright, round, towards the bottom smooth and downy, but near the top it is slightly grooved, woolly, branched, and rises above a foot in height: the leaves stand alternately upon the stem, which they partly embrace, and are bipinnated or subdivided into a double series of pinnæ: the pinnulæ are numerous, narrow, and somewhat pointed: the flowers are white, or tinged with purple, and terminate the stem in a close corymbus: the bracteæ are small, pinnatifid, and placed at the peduncles: the calyx is ovate, downy, imbricated with concave oval scales, which are membranous, and fringed at the margins: the corolla is compound, and radiated; at the *disc* the florets are about twelve, hermaphrodite, funnel-shaped, of the length of the calyx, consisting of a long yellowish tube, divided at the limb into five short segments: at the *radius* the florets are female, usually five, flat, spreading, roundish, cut at the apex into three teeth, and furnished with a cylindrical, greenish, striated tube, which is about the length of the calyx: the filaments are five, short, and slender: the antheræ are yellow, and unite into a cylindrical tube: the germen is oblong, compressed, and supports a filiform style, divided into two reflexed stigmata. It is common in dry pastures, and flowers from July till October.

The leaves and flowers of this plant have an agreeable weak aromatic smell, and a bitterish, rough, and somewhat pungent taste. "The virtue of both is extracted by watery and spirituous menstrua; the astringency most perfectly by the former; their aromatic warmth

[a] Dr. Grew observes, that the fresh young roots have a glowing warm taste, approaching to that of Contrayerva, and thinks they might in some measure supply its place.—*On Tastes, chap.* 5. §. 2.

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and pungency by the latter; and both of them equally by a mixture of the two. The flowers, distilled with water, yield a penetrating essential oil, possessing the flavour of the Milfoil in perfection, though rather less agreeable than the flowers themselves."*

This plant appears to be the Στρατιώτης χιλιόφυλλος ‖ of the Greek writers, by whom it was esteemed an excellent vulnerary † and styptic, and was generally employed internally as an useful astringent in all hæmorrhagic complaints. Instances of its good effects in this way[b] are likewise mentioned by several of the German physicians, particularly, by Stahl and Hoffman,[c] who also recommend it as an efficacious remedy in various other diseases: the former found it not only an astringent, but also a powerful tonic, antispasmodic, and sedative. In proof of the last mentioned quality, we may remark, that in some parts of Sweden it is used in making beer, in order to render it more intoxicating[d]; and Sparrman has observed, that it is employed for this purpose in some parts of Africa. The leaves and flowers of Milfoil are both directed for medicinal use in the Edinburgh Pharm. In the present practice however this plant, we believe, is wholly neglected.

* Vide Lewis's M. M. p. 424. ‖ Vide Stratiotes, *Matthiol. in Dioscorid.*

† Vulneraria insuper habetur sub externo usu, jam ab Achille, ut ferunt, sanatione vulnerum subjectorum sibi militum, auctorato. Murray App. Med. vol. 1. p. 167.

[b] Hæmoptysis, Epistaxis, Menorrhagia, et Hæmorrhois.

[c] Stahl *Diss. de Therap. pass. hypoc.* Hoffman, *De præst. rem.* §. 18.

[d] Vide Linn. *Flor. Suec. p.* 299.

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LEONTODON TARAXACUM. COMMON DANDELION.

SYNONYMA. Taraxacum. *Pharm. Lond. & Edin.* Dens Leonis, *Raii Syn.* 170. *Ger. em.* 290. *L. Officinalis Wither.* 679. L. Taraxacum. *Huds.* 339. *Smith Flor. Ang.* 822. *Curt.* 1. *t.* 58.

Class Syngenesia. *Order* Polygamia Æqualis. L. *Gen. Plant.* 912.
* *Semiflosculosi Tourn. corollis ligulatis omnibus.*

Ess. Gen. Char. Recept. nudum. *Cal.* imbricatus, squamis laxiusculis. *Pappus* plumosus.

Spec. Char. L. T. calyce squamis inferne reflexis, foliis runcinatis denticulatis lævibus.

DANDELION is so very common, that a plot of ground can scarcely be seen where it does not present its yellow flowers*. It is easily distinguished from the hawkweeds and other ligulated plants, by the outer calyces being bent downwards, and by the flower stalk, which is simple, coloured, shining, and unifloral: the leaves are all radical and cut in a peculiar way, forming a good example of what botanists call runcinata. The seeds, in approaching to maturity, become crowned with a fine downy feather, disposed in a spherical shape. The root is perennial and spindle-shaped, which with the whole plant abounds with a milky juice.

The young leaves of this plant in a blanched state have the taste of endive, and make an excellent addition to those plants eaten early in the spring as sallads[a]. At Gottingen the roots are roasted and substituted for coffee by the poorer inhabitants; who find that an infusion prepared in this way can hardly be distinguished from that of the coffee [b] berry.

* It has been observed that these flowers possess a certain degree of sensibility, for when under the powerful influence of the sun in a summer's morning, an evident motion of the flowerets may be discovered. MS Lect. of the late Dr. Hope.

[a] Withering's Bot. Arrang. p. 839. [b] Murray. App. Med. p. 107.

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Dandelion is generally considered by medical writers as the most active and efficacious of the lactescent plants; the expressed juice is bitter and somewhat acrid, the root however is still bitterer[c], and possesses more medicinal power than any other part of the plant. Taraxacum has been long in repute as a mild detergent and aperient, and its diuretic effects may be inferred from the vulgar name it bears in most of the European languages, quasi lectiminga et urinaria herba dicitur[d]. Murray says, Viscidos nimirum tenacesque humores stirps solvit, et obstructa vasa reserat, eruptionem variam sanat[e]: and Bergius recommends its use in obstructions of the liver, hypochondriasis, and jaundice. Its successful use in the first of these diseases is confirmed by his own experience[f]. De Haen also gives us another instance of the same complaint cured by the same means; and we have various proofs of the good effects of the Taraxacum related by different authors, in jaundice[g], dropsy[h], pulmonic tubercles[i], and some cutaneous disorders[k].

[c] Haller's Stirp. Hel. n. 58.

[d] ——— plus lotii derivat in vesicam quám pueruli retinendo sunt, præsertim inter dormiendum, eòque tunc imprudentes et inviti stragula permingunt. Ray's Hist. Pl. p. 244. [e] Murray, l. c.

[f] In hepatis morbis, præstantissima est radix hæc recens, sero lactis, jusculis et apozematibus incocta. Præclara identidem inde vidi, ubi alia fefellerunt. Sæpe mihi successit resolvere duritiem hepatis cum jusculo parato e radice recenti. Taraxaci et fol. rec. acetosæ, in sero lactis coctis, vel in aqua, addito vitello ovi, quod jusculum quotidie per plures septimanas, immo memses, sumpserunt ægroti, propinato simul cremore tartari. Hoc regimen exoptata præstitit etiam in calculo felleo et in ascitide. Mat. Med. tom 2. p. 649.

[g] Van Swieten's Com. tom 3. p. 102. and Boerhaave apud Boretium.

[h] Bergius loc. cit. Bonafas in Hautesierckü Recueil d'Observ. tom. 2. p. 360. Fränk. Samml. t. 1. p. 226.

[i] Zimmerman, vide Murray, l. c. Haller, l. c. Park. 780.

[k] Leidenfrost Dissert. de Succis. Herb. rec. p. 27. Frank. Samml. l. c. p. 126. Delius's Diss. de Tarax. aq. taraxaci per fermentationem parata: et in aliis morbis utitur. Febure Chemie. 2. p. 408.

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The leaves, roots, flower stalks, and juice of Dandelion, have all been separately employed for medical purposes, and seem to differ rather in degree of strength than in any essential property: therefore the expressed juice, or a strong decoction of the roots have most commonly been prescribed, from one ounce to four, two or three times a day. The plant should be always used fresh; even extracts prepared from it appear to lose much of their power by keeping[1].

Ingreditur cum radice graminis regiam illam ptisanam, cujus formulam Ludovicus XIV. magno pretio redemit. Haller's Stirp. Hel. No. 56.

[1] Lewis's M. M. 273.

ARNICA MONTANA. MOUNTAIN ARNICA.

SYNONYMA. Arnica, *Pharm. Lon. & Edinb.* Doronicum Austriacum Quartum, *Clus. Pann.* p. 520. Δωρογηπικη *Reneaulme*, p. 118. Doronicum Plantaginis folio alterum, *C. B.* 185. *Tourn. Institut.* 487. Doronicum Germanicum *Park. & Ray.* Doronicum Germanicum foliis semper ex adverso nascentibus villosis, *J. B.* III. 19. Calendula Alpina, *Gerard* 740. Arnica foliis conjugatis, ovatis, integerrimis, *Hal. Stirp. Helv.* No. 90. A. Montana. *Flor. Dan.* 63. *Gartn. Fruct. f.* 451. *Villars. Dauph.* 207.

Class Syngenesia. *Ord.* Polygamia superflua, *L. Gen. Pl.* 958.

Ess. Gen. Char. Recept. nudum. *Pappus* simplex. *Corollulæ* radii filamentis 5 absque antheris.

Sp Ch. A. foliis ovatis integris: caulinis geminis oppositis.

THIS plant is very common upon the northern mountains of Germany and Switzerland, and was first cultivated in this country by

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Mr. P. Miller in 1759. [a] The stalk grows above one foot high, erect, roundish, striated, rough, hairy. The radical leaves are oval, narrow at their bases, and more obtusely lanceolated than the cauline leaves. On the stalk they are sessil, entire, oval, obtusely lance-shaped, and stand in pairs: the flowers are large, yellow, radiated, solitary, terminal, appearing in July: the calyx is imbricated, and consists of a single row of narrow, pointed, rough leaflets: the root is perennial, thick, fleshy, and spreading.

The odour of the fresh plant is rather unpleasant, and the taste acrid, herbaceous, and astringent; a watery infusion of it strikes a black colour by the addition of sal martis[b], and the powdered leaves act as a strong sternutatory.

That the Arnica is a medicine of considerable activity there cannot be a doubt; but how far it deserves the extravagant praises it has received at Vienna, is not for us to determine; either the facts stated by Dr. Collin are not admitted by the physicians of this country, or we are disregardful * of a remedy of the first importance in the Materia Medica.

But as our business is to adduce whatever is recorded of each plant by authors of respectability, (whether of Arnica or *Hemlock*) still the medical reader must form his own judgment of the evidence.

The virtues of this plant[c], according to Bergius, are emetica, errhina, diuretica, diaphoretica, emmenagoga, and from its supposed power of attenuating the blood, it has been esteemed so peculiarly efficacious in obviating the bad consequences occasioned by falls and

[a] Hortus Kewensis, vol. 3. p. 226.

[b] Bergius, M. M. 683.

* The author has not been able to procure this plant from any of the London druggists.

[c] There is a variety of this species with narrower leaves, which is more powerfully medicinal. Gmelin Flor. Sibir t. 2. p. 153.

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bruises, that it obtained the appellation of panacea lapsorum[d]; and by this resolvent power its success in sundry diseases has been accounted for, particularly pulmonic complaints, suppressio mensium, and visceral obstructions.[e] Of the advantages derived from its use in paralytic and other affections depending upon an interruption or diminution of nervous energy, we have several proofs[f]; and it is observed in these cases, that the recovery is generally preceded by great uneasiness, or acute pain in the parts affected. But it is the extraordinary febrifuge and antiseptic virtue of the Arnica, which have been so highly extolled by Dr. Collin[g].

It had long been a desideratum of his to find an European plant of equal medicinal powers with the Peruvian bark in fevers of the intermitting and putrid kind; and after several fruitless trials of different simples, at last he had the satisfaction to find them in the Arnica; for by the flowers of this plant, made into an electuary[h] with honey, he cured more than one thousand patients labouring under the different species of intermittent fevers in the Pazman hospital, from December 1771, to July 1774; and during the following winter the Doctor made trial of a watery extract of the

[d] Fehrius Eph. N. C. Dec. 1. ann. 9 & 10. Obs. 2. Acta Med. Berolin, Dec. 1. vol. 1. n. 4. vol. 10. p. 80. Dec. 2. vol. 1. p. 66. Buchner, Diss. de genuinis principiis et effectibus Arnicæ. Schulzius, M. M. De La Marche Diss. de Arnicæ veræ usu. Rosenstein. Apot. p. 21. Scopol. Fl. carn. p. 377.

[e] Fehr. loc. cit. Brückner, in Sel, Med. Francof. vol. 3. p. 190. Act. Berol. Dec. 1. vol. 9. p. 24. Quarin, Meth. Med. inflam. p. 80. Act. Berol. Dec. 1. vol. 10. p. 82. l. c. Dec. 2. vol. 4. p. 92 & 94. Nebel in Act. nat. cur. vol. 8. Obs. 113. Vater, Diss. de Ictero.

[f] Bergius m. m. Junker Therap. gen. p. 173. Eschenbach Obs. p. 353. & Dr. Collin, Flor. Arnicæ Vires, mentions twenty-eight cases of paralysis, and nine of amaurosis. Aaskow Societ. Med. Havan. vol. 2. p. 162.

[g] Hen. Jos. Collin, physician to the Pazman hospital, De arnicæ in febribus, & aliis morbis putridis viribus.

[h] R. Pulv. Flor. Arnicæ drach. ix. mellis q. s. bidui spatio absumendum.

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flowers, by which he cured thirty quotidians, forty-six tertians, and fifty-eight quartans.*

In putrid fevers the Doctor experienced equal success with the flowers employed in the way of infusion[i], with which many hundreds of patients were snatched from the very jaws of death. However, there are some cases where the Doctor recommends the root[k] in preference to the flowers, believing the former to possess more cordial, tonic, and antiseptic qualities; and it is accordingly directed in those cases where putridity and debility are more prevalent than fever; also in a malignant dysentery Dr. Collin could relate many hundred instances of the superior efficacy of Arnica root, and his practice in this disease was imitated and confirmed by Dr. Dietl[l].

Dr. Collin farther ascertains the medicinal powers which he attributes to this root in thirteen cases of gangrenes, where its antiseptic effects admitted of more evident proof. As the Arnica, when first administered, often excites vomiting, or uneasiness at the stomach, it will be necessary to begin with small doses; but by repeating the medicine two or three times, this uneasiness goes off.

* Dr. Collin is, we believe, the only author who has experienced the good effests of Arnica in intermitting fevers, if we except the two cases stated by Aaskow (l. c.) where it acted as a powerful evacuant. Bergius employed it in quartan intermittents, which were aggravated, rather than bettered, by the use of this medicine. m. m.

[i] R. Flor. arnicæ unc. j. infunde in s. q. aquæ fervidæ per ½ horam, deinde vase clauso per medium ¼ horæ ebulliant; colat. lib. ij. add. syr. capill. vener. q. s. ad gratiam; et omni bihorio diei sumat unc. ij.

[k] R. Pulv. Rad. Arnicæ unc. ij. digere in phiala alta balneo arena adaptata, exacte clausa, per 12 horas cum aq. q. s. colatur unc. xxx. adde syr. alth. unc. iij. m. sumat æger omni bihorio unc. ij. vel iij. And to make this medicine more palatable to the patient, he occasionally added lemon juice, spt. vitriol, or wine.

[l] Physician to the military hospital of invalids, at Vienna.

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TUSSILAGO FARFARA. COLTSFOOT.

SYNONYMA. Petasites scapo unifloro, flore radiato, *Hal. Stirp. Helv.* n. 143. Bechium, *Dodon. Pempt.* 586. Tussilago vulgaris. *Bauh. Pin.* 197. *Zannich. Venez.* t. 266. Tussilago. *Clus. Hist.* 140. *Camer. Epit.* 590. *Gerard,* 811. *Parkinson,* 1220. *Raii Hist. Plant,* 259. Tussilago Farfara. *Curtis Flor. Lond. Relhan. Flor. Cantab. Withering.* 719 *Huds.* 364. *Smith.* 878. *En. Bot.* 429. Βηχιον* *Dioscorid. Hippoc. &c.*

Class Syngenesia. *Ord.* Polygamia Superflua. *L. Gen. Pl.* 952.

Ess. Gen. Ch. Recept. nudum. *Pappus* simplex. *Cal.* squamæ æquales, discum æquantes, submembranaceæ.

Sp. Char. T. scapo unifloro imbricato, foliis subcordatis angulatis denticulatis.

THE root is long, round, tapering, creeping, and sends off many small short fibres; the stalks are furrowed, downy, simple, six or eight inches high, beset with several scaly leaves, of a brownish pink colour, and closely embracing the stem; the leaves are obtusely heart-shaped, angular, irregularly indented, above of a bright green colour, beneath white, downy, and stand upon long roundish radical footstalks; the flowers are compound, large, and yellow; *the florets in the disc* are hermaphrodite, tubular, the limb is cut into five acute segments, which curl outwardly; the antheræ, by uniting, form a tube, but their apices are separate and pointed; the germen is short, the style filiform, longer than the antheræ, and the stigma is round: the *florets at the circumference* are female,

* Supposed to be derived from βηξ, tussis, hence Tussilago.

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tubular at the base, and the limb is long and linear; the germen is oblong; the stigma bifid; the seed is oblong, and of a pale-brown colour, crowned with simple down; the calyx is cylindrical, and the leaflets or squamæ are oblong, pointed, and alternately narrower. It is common in moist clayey places, and the flowers appear sometime before the leaves, in March or April.

The sensible qualities of Tussilago are very inconsiderable; it has a rough mucilaginous taste, but no remarkable smell. The leaves have always been of great fame, as possessing demulcent and pectoral virtues; of course, it is esteemed useful in pulmonary consumptions, coughs, asthmas, and in various catarrhal symptoms.[a] Fuller, in his Medicina Gymnastica,[b] recommends Coltsfoot as a valuable medicine in scrophula; and Dr. Cullen, who does not allow it any powers as a demulcent and expectorant, found it serviceable in some strumous affections.[c] It may be used as tea, or given in the way of infusion, to which liquorice-root or honey, may be a useful addition.

[a] We might, without exception, cite every writer upon the Materia Medica. Percival found it also useful in hectic diarhœas. Essays Med. and Exper. vol. 2. p. 224. Cartheuser advises it to be given with the roots of Dandelion. Mat Med. 416. The juice, liberally drunk, has been beneficial in calculous complaints. Comm. Lit. Nor. 1736, p. 194. [b] p. 84.

[c] Every part of the plant has been medicinally employed for the same purpose, but more usually the leaves, and these are the principal ingredient in the British herb tobacco. It is remarkable, that the smoking of this plant has the recommendation of Dioscorides, Galen, Pliny, Boyle, &c. Et adhuc hodie plebs in suecia instar tabaci contra tussim sugit. Lin. Flor. Suec. p. 289, and under the direction of Pliny it is certainly an efficacious remedy—in singulos haustus, passum gustandum est. lib. 26. c. 6. p. 651.

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ANTHEMIS NOBILIS. COMMON CAMOMILE.

SYNONYMA. Chamæmelum. *Pharm. Lond. & Edinb. Gerard Emac. p.* 755. *Park. Parad. p.* 289. Chamæmelum nobile seu Leucanthemum odoratius. *Bauh. Pin. p.* 135. Chamæmelum odoratissimum repens, flore simplici. *J. Bauh. Hist. v. iii. p.* 118. *Raii Hist. p.* 353. *Synop. p.* 185. Chamæmelum foliis subhirsutis, nervo duro, pinnis pinnatis, pinnulis lanceolatis incisis. *Hal. Stirp. Helv. n.* 102. Anthemis nobilis. *Hudson, Flor. Ang. With. Bot. Arr. Smith Flor. Lond.* 904.

Class Syngenesia. *Ord.* Polygamia Superflua. *Lin. Gen. Plant.* 970.

Ess. Gen. Ch. Recept. paleaceum. *Pappus* nullus. *Cal.* hemisphæricus, subæqualis. *Flosculi* radii plures quam 5.

Sp. Ch. A. foliis pinnato-compositis linearibus acutis subvillosis.

THE roots are perennial, fibrous, spreading: the stems are slender, round, trailing, hairy, branched, of a pale green colour, and about a foot in length: the leaves are doubly pinnated; the pinnæ are linear, pointed, a little hairy, and divided into three terminal segments: the flowers are compound, radiated, white, at the centre yellow, and stand singly: the calyx is common to all the florets, of an hemispherical form, and composed of several small imbricated scales: the flowers of the *radius* are female, and usually about eighteen, narrow, white, and terminated with three small teeth: the tubular part of the floret encloses the whole of the style, but does not conceal the bifid reflexed stigma: the flowers of the *disc* are numerous, hermaphrodite, tubular, and cut at the brim into five segments: the filaments are five, very short, and have their antheræ united, forming a hollow cylinder: the germen is oblong: the style is short, slender, and furnished with a bifid reflexed stigma: the

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seeds are small, and of an irregular shape: the receptacle is supplied with rigid bristle-like paleæ. It grows in most pastures, and flowers in July and August.

The name Camomile is supposed to be expressive of the smell of the plant χαμαίμηλον, quoniam odorem mali habeat.[a] It is referred to the ἄνθεμις of Dioscorides, and to the ἄνθεμον of Theophrastus. Matricaria Chamomilla, or Corn Feverfew, is similar in its general appearance to the Anthemis nobilis, and is directed for officinal use by most of the foreign pharmacopœias; but the plant which we have here figured has a more fragrant and a more powerful odour, yields more essential oil, and of course is the more efficacious.

A double-flowered variety of Camomile is very common, and usually kept at the shops, but as the odorous and sapid matter chiefly resides in the disc, or tubular part of the florets, the London College therefore judiciously prefer the simple flowers, in which this matter is most abundant.[b]

Both the leaves and flowers of this plant have a strong though not ungrateful smell, and a very bitter nauseous taste, but the latter are the bitterer, and considerably more aromatic. "Camomile flowers give out their virtues both to water and rectified spirit: when the flowers have been dried so as to be pulverable, the infusions prove more grateful than when they are fresh or but moderately dried. Distilled with water, they impregnate the aqueous fluid pretty strongly with their flavour: if the quantity of camomile submitted to the operation is large, a little essential oil[c] separates and rises to the surface of the water, in colour yellow, with a cast of greenish or brown, of a pungent taste, and a strong smell, exactly resembling that of the camomile. Rectified spirit, drawn

[a] *Plin. L. 22. c. 21.*

[b] The tubes of the florets appear beset with minute glands, which probably secrete the essential oil.

[c] Baumé obtained from 82 lb. of the flowers 13 drams, and once 18 drams of essential oil. But from a like quantity of the herb, without the flowers, only half a dram of this oil was procured. See *Berg. M. M. p.* 695.

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off from the spirituous tincture, brings over likewise a part of the flavour of the camomile, but leaves a considerable part behind in the extract. The smell is in great measure covered or suppressed by the spirit, in all the spirituous preparations; but the taste both in the spirituous tincture and extract, is considerable stronger than in the watery."[d]

These flowers possess the tonic and stomachic qualities usually ascribed to simple bitters, having very little astringency, but a strong odour of the aromatic and penetrating kind, from which they are also judged to be carminative, emmenagogue, and in some measure antispasmodic and anodyne. They have been long successfully employed for the cure of intermittents;[e] as well as of fevers of the irregular nervous kind, accompanied with visceral obstructions, for which we have the authority of Sir John Pringle.[f]

That camomile flowers may be effectually substituted for Peruvian bark in the cure of intermittent fevers, appears from the testimony of several respectable physicians, to which we have referred; and to which we may add that of Dr. Cullen, who says, "I have employed these flowers, and agreeable to the method of Hoffman, by giving several times during the intermission, from half a dram to a dram of the flowers in powder, have cured intermittent fevers. I have found however that the flowers were attended with this inconvenience, that, given in a large quantity, they readily run off by stool, defeating thereby the purpose of preventing the return of paroxysms; and I have found, indeed, that without joining with them an opiate, or an astringent, I could not commonly employ them."[g]

[d] *Lewis, M. M. p.* 221.

[e] Morton, *(Exercit. 1. de febr. interm. cap. 6.)* Hoffman, *(Diss. de præstan. rem. dom. p. 29.)* Heister, *(Diss. de Medic. Germ. indig. p. 13.)* found these flowers more effectual in the cure of intermittents than the peruv. bark: and Dr Cullen observes, that his celebrated countryman, Dr. Pitcairn, was of opinion that the powers of Cam. flowers were in this respect equal to the bark.

[f] *Dis. of the Army*, p. 216.

[g] *M M. vol. ii. p.* 79.

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These flowers have been found useful in hysterical affections, flatulent and spasmodic colics, and dysentery, but from their laxative quality, Dr. Cullen tells us, they proved hurtful in diarrhœas. A simple watery infusion of them is frequently taken, in a tepid state, for the purpose of exciting vomiting or for promoting the operation of emetics. Externally the flowers are used in the decoctum pro fomento, and they are an ingredient in the decoctum pro enemate.

ANTHEMIS PYRETHRUM. SPANISH CAMOMILE, Or, PELLITORY of SPAIN.

SYNONYMA. Pyrethrum. *Pharm. Lond. & Edinb.* Pyrethrum flore bellidis. *Bauh. Pin. p.* 148. Pyrethrum officinarum. *Lob.* 447. *Gerard. Emac. p.* 758. *Park. Theat. p.* 858. *Raii Hist. p.* 353. Chamæmelum specioso flore, radice longa fervida. *Shaw, Afr. p.* 138. Anthemis caulibus simplicibus unifloris decumbentibus. *Mill. Fig. t.* 38. Πύρεθρον *Dioscorid. Lib.* 3. *c.* 85.*

Class Syngenesia. *Ord.* Polygamia Superflua, *Lin. Gen. Plant.* 970.

Ess. Gen. Ch. Recept. paleaceum. *Pappus* nullus. *Cal.* hemisphæricus, subæqualis *Flosculi* radii plures quam 5.

Sp. Ch. A. caulibus simplicibus unifloris decumbentibus, foliis pinnato-multifidis.

THE root is perennial, tapering, long, externally whitish, and sends off several small fibres: the stems are usually simple, round, trailing, bearing one flower, and scarcely a foot in height; but the specimen here figured was extremely luxuriant, and has in some degree departed from its more common and simple appearance:

* Ab igne nomen habet, ob radicis ejus fervorem igneum. *V. Bauh. l. c.*

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the leaves are doubly pinnated, segments narrow, nearly linear, and of a pale green colour: the flowers are large, at the disc of a yellow colour, at the radius white on the upper side, on the under side of a purple colour: the different florets answer to the description given of the Anthemis nobilis. It flowers in June and July.

This plant is a native of the Levant and the southern parts of Europe; it was cultivated in England by Lobel in 1570,[a] but it does not ripen its seeds here unless the season proves very warm and dry.[b] The root of Pyrethrum has a very hot pungent taste, without any sensible smell." Its pungency resides in a resinous matter, of the more fixed kiud; being extracted completely by rectified spirit, and only in small part by water; and not being carried off, in evaporation or distillation by either menstruum."[c]

The ancient Romans, we are told, employed this root as a pickle,[d] and indeed it seems less acrid than many other substances now used for this purpose. In its recent state this root is not so pungent as when dried, yet if applied to the skin it is said to act like the bark of mezereon, and in four days produces inflammation of the part.[e]

From the aromatic and stimulating qualities of Pyrethrum there can be no doubt but that it might be found an efficacious remedy, and equally fitted for an internal medicine, as many others of this class now constantly prescribed. Its use however has been long confined to that of a masticatory,[f] for on being chewed, or long retained in the mouth, it excites a glowing heat, stimulates the excretories of saliva, and thereby produces a discharge, which has been found to relieve toothachs, and rheumatic affections of the face; in this way too, it is recommended in lethargic complaints, and paralyses of the tongue.

[a] *Adver. p.* 346. Vide *Hort. Kew.* [b] *Miller Dict.*

[c] *Lewis M. M. p.* 527. [d] See *Berg. M. M. p.* 698.

[e] *Bergius, V. l. c.*

[f] Its use in this way is mentioned by Serenus Samonicus:

"Purgatur cerebrum mansa radice pyrethri."

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ARTEMISIA ABROTANUM. COMMON SOUTHERNWOOD.

SYNONYMA. Abrotanum. *Pharm. Lond. & Edinb.* Abrotanum mas angustifolium majus. *Bauh. Pin. p.* 136. *Tourn. Inst. p.* 459. *Duhamel, Arb. i. p.* 20. *t.* 4. Abrotanum mas vulgare. *Park. Theat. p.* 92. Abrotanum mas. *Gerard. Emac. p.* 1105. *Raii Hist. p.* 371. *Dodon. Pempt. p.* 21. Vide *Allion. Ped.* 695. *Krock. Siles. n.* 1364.

α A. caule *erecto.*

β A. *humilis* foliis setaceis pinnatifidis, caule decumbente suffruticoso. *Mill. Dict.*

Class Syngenesia. *Ord.* Polygamia Superflua. *Lin. Gen. Plant.* 945.

Ess. Gen. Ch. Recept. subvillosum vel nudiusculum. *Pappus* nullus. *Cal.* imbricatus, squamis rotundatis, conniventibus. *Cor.* radii nullæ.

Sp. Ch. A. fruticosa, foliis setaceis ramosissimis.

THE root is perennial, woody, and fibrous: the stalk is shrubby, round, covered with smooth brown bark, sends off vertical branches, and rises two or three feet in height: the leaves are numerous, somewhat hoary, doubly and irregularly pinnated; pinnæ linear, long, narrow, entire, concave on the upper side, convex beneath, and stand upon long footstalks, which are also of this shape: the flowers are small, of a greenish yellow colour, and placed in close terminal spikes upon the branches: the calyx is imbricated, consisting of several membranous scales: the flowers are compound, composed of numerous florets; those in the *centre,* or *disc,* are *hermaphrodite;* but in the *margin* they are *female:* the corolla is tubular, and extremely minute: the filaments are five, short, and slender: the antheræ are united, and form a hollow cylinder: the

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style is longer than the stamina, and furnished with a cleft reflected stigma: the seeds are naked and solitary.

Southernwood is a native of France, Spain, and Italy: it was cultivated here by Gerard, and its odour renders it so generally acceptable, that there are few gardens in which this plant is not to be found. Although it bears the cold of our winters very well, it so rarely flowers in Britain, that a specimen proper for delineation cannot without difficulty be obtained.

The leaves and tops of Southernwood, have a strong, and to most people an agreeable smell: its taste is pungent, bitter, and somewhat nauseous. These qualities are completely extracted by spirituous menstrua, the herb communicating to the spirit a beautiful green colour. Water extracts its virtues less perfectly, and the infusion is of a light brown colour. In distillation with water this plant affords but a small quantity of essential oil; for from sixteen pounds of the fresh leaves scarcely three drams of this oil could be obtained.[a]

The Abrotanum mas & femina were regarded by the ancients[b] as medicines of considerable efficacy; the latter is referred to Santolina Chamæ-Cyparissus, *Lin.* (Common Lavender Cotton); the former is the species now under consideration, and has been esteemed to be stomachic, carminative, and deobstruent; it is supposed to stimulate the whole system, more particularly that of the uterus. But though it still retains a place both in the London and Edinburgh pharmacopœias, it is now rarely used, unless in the way of fomentation.

[a] Lewis, *M. M. p.* 4.

[b] See Theophrast. *Hist. L.* 1. *c.* 15. *p.* 44. Dioscor. *L.* 3. *c.* 29. *p.* 184. Galen, *Simpl. L.* 6. *p.* 40. Pliny, *L.* 21. *c.* 21.

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ARTEMISIA ABSINTHIUM. COMMON WORMWOOD.

SYNONYMA. Absinthium vulgare. *Pharm. Lond. & Edinb.* Absinthium ponticum seu Romanum officinarum, seu Dioscoridis. *Bauh. Pin. p.* 138. Absinthium latifolium sive Ponticum. *Gerard. Emac. p.* 1096. Absinthium vulgare majus. *J. Bauh. Hist. iii. p.* 168. Absinthium vulgare. *Park. Theat. p.* 98. *Rati Hist. p.* 366. *Synop. p.* 188. *Hal. Stirp. Helv. n.* 124. Artemisia Absinthium. *Huds. Ang. p.* 358. *Withering. Bot. Arrang. p.* 891. *Smith.* 864.

Sp. Ch. A. foliis compositis multifidis, floribus subglobosis pendulis: receptaculo villoso.

THE root is perennial, long, and fibrous: the stalks are round, channelled, somewhat downy, ligneous, rising two or three feet in height, and sending off several round branches: the leaves are compound, divided into many bluntish segments in a pinnated order, on the under side downy, of a whitish or pale green colour, and silky softness: the flowers are of a brownish yellow colour, pendent, and placed in numerous spikes, which stand alternately upon the branches: the calyx is composed of many oval scales: the florets are hermaphrodite and male, placed upon a villous receptacle, and in the structure of their different parts nearly resembling those described of the preceding species of Artemisia. This plant is a native of Britain, and grows about rubbish, rocks, and sides of roads.

The leaves of Wormwood have a strong disagreeable smell; their taste is nauseous, and so intensely bitter as to be proverbial. The flowers are more aromatic and less bitter than the leaves, and the roots discover an aromatic warmth without any bitterness.*

* This plant communicates a bitter taste to the flesh and milk of cows and sheep which feed on it. *Lin. Flor. Suec. n.* 735. The milk of a woman, who took the extract, became extremely bitter. *Act. Hafn. vol.* 2. *p.* 165.

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" The leaves give out nearly the whole of their smell and taste both to aqueous and spirituous menstrua. Rectified spirit elevates little from this plant in distillation: water brings over almost the whole of its smell and flavour. Along with the aqueous fluid there arises an essential oil, which smells strongly and tastes nauseously of the Wormwood, though not bitter. The quantity of oil varies greatly, according to the soil and season in which the herb is produced."[a]

" The watery extract loses the distinguishing smell and ill flavour of the plant, but retains its bitterness almost entire. An extract, made with rectified spirit, contains, along with the bitter, nearly the whole of the nauseous part;[b] water carrying off, in the evaporation, all the oil in which the offensive flavour resides, while pure spirit elevates very little of it."[c]

This species of Wormwood, which is thought by Professor Murray to be the Absinthium ponticum of Dioscorides and Pliny,[d] may be considered the principal of the herbaceous bitters. Its *Virtus*, in the words of Bergius, is antiputredinosa, antacida, anthelminthica, resolvens, tonica, stomachica.[e] And although it is now chiefly employed with a view to the two last mentioned qualities, yet we are told of its good effects in a great variety of diseases, as intermittent fevers,[f] hypochondriasis,[g] obstructions[h] of the liver and spleen,

[a] *Baumé* from twenty-five pounds of the herb obtained six to ten drams of the oil.

[b] The extract, triturated with salt of tartar, emits a volatile odour; and hence appears to contain sal ammoniacum. Sulzer. *Diss. An in plantis sal essentiale ammoniacum? Gott.* 1769.

[c] Lewis, *M. M. p.* 6.

[d] " Absinthium bathypicron herba est vulgo cognita. Præstantius in Ponto & Cappadocia in monte Tauro appellato nascitur." *Dioscor. L.* 3. *c.* 26. *p.* 183.

[e] *Mat. Med. p.* 670. [f] Boerhaave, *Elem. Chem. Processus.* 39. *Comm. Nor.* 1734. *p.* 225.

[g] Haller, *l. c.* [h] Lange, *Brunov. p.* 111.

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gout,[j] calculi,[k] scurvy,[l] dropsy,[m] worms, &c. Lindestolphe[n] has asserted, that by a continued use of this herb, great injury is done to the nervous system, from its narcotic and debilitating effects, which he experienced upon himself; observing also, that he could never taste the extract or essence of wormwood without being immediately affected with head-ach and inflammation of the eyes: and it is noticed both by him and his commentator, Stenzelius, that Absinthium produced similar effects upon many others. These narcotic effects of Wormwood have however been attributed to a peculiar idiosyncrasy, as numerous instances have occurred in which this plant produced a contrary effect, though taken daily for the space of six months. Dr. Cullen, speaking on this subject, says, "I have not had an opportunity of making proper experiments; but to me, with Bergius and Gleditsch, the odour of Wormwood seems temulentans, that is, giving some confusion of head: and formerly, when it was a fashion with some people in this country to drink Purl, that is, ale, in which wormwood is infused, it was commonly alleged to be more intoxicating than other ales. This effect is improperly supposed to be owing to its volatile parts: but I am more ready to admit the general doctrine of a narcotic power; and I believe, from several considerations, particularly from the history of the Portland powder, that there is in every bitter, when largely employed, a power of destroying the sensibility and irritability of the nervous power."[o]

Externally Wormwood is used in discutient and antiseptic fomentations. This plant may be taken in powder, but it is more commonly preferred in infusion. The Edinburgh pharmacopœia directs a tincture of the flowers, which is, in the opinion of Dr. Cullen, a light and agreeable bitter, and at the same time a strong impregnation of the Wormwood.

[j] Haller, *l. c.* Bomare, *Dict.* [k] Linnæus, *Am. Acad. T.* 3. *p.* 160.

[l] Eugal. *De Scorb. p.* 83. [m] Fehr, *Hiera. picra, vel de Absinth. analecta. p.* 117. Heister *in* Hall. *Disput. anat. vol.* 6. *p.* 713. *Misc. Nat. Cur. Dec.* 1. *Ann.* 3. *Obs.* 322. [n] *De venenis. p.* 547. [o] *Mat med. vol.* 2. *p.* 81.

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ARTEMISIA VULGARIS. MUG-WORT.

SYNONYMA. Artemisia.† *Pharm. Edinb.* Artemisia vulgaris major. *Bauh. Pin.* p. 137. Artemisia mater herbarum. *Gerard. Emac.* p. 1103. Artemisia foliis pinnatis inferne tomentosis, pinnis acute dentatis, spica paniculata erecta. *Hal. Stirp. Helv. n.* 130. Artemisia vulgaris. *J. Bauh. Hist. iii.* p. 184. *Park. Theat.* p. 90. *Raii. Hist.* p. 372. *Synop.* p. 190. *Huds. Flor. Ang.* p. 359. *Withering Bot. Arrang.* p. 891. *Smith Flor. Brit.* 865.

Sp. Ch. A. foliis pinnatifidis planis incisis subtus tomentosis, racemis simplicibus recurvatis, floribus radio quinquefloro.

THE root is perennial, composed of numerous strong fibres: the stalk is erect, branched, angular, striated, reddish, and usually rises two or three feet in height: the leaves are irregularly and deeply divided into several laciniæ or lobes, which are oval, pointed, on the upper side of a deep green colour, on the under downy, or covered with a cotton-like substance: the flowers are small, purplish, and produced in spikes, which stand alternately, and rise from the bottom of the leaves: the calyx is composed of several narrow scales, which are purplish, woolly, and placed in an imbricated order: the florets are longer than the calyx, stand upon a naked receptacle, and appear in August: the five florets of the circumference are female; those of the centre are hermaphrodite, and both agree in their structure with those of the other species already described.

Mugwort is a native of Britain, and is commonly found growing in waste grounds, and the borders of fields. It is divided into red

† "Artemisia dicta, ab *Artemisia Mausoli Cariæ regis uxore*, quæ hanc sibi, ut loquitur *Plinius l.* 25. *c.* 7. *p.* 636. adoptavit, cum antea παρθένις i. e. virginalis, quod virgo dea illi nomen dederit, vocaretur. Sunt qui ab *Artemide Ilithia* cognominatam putent; quoniam privatim fœminarum malis, quibus Αγροτις i. e. *Diana* præest, medeatur." *C. Bauh. l. c.*

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and white varieties; the former is distinguished by a reddish tinge of the stalk and flowers; in those of the latter they are of a pale green. "The leaves have a light agreeable smell, especially when rubbed a little; but scarcely any other than an herbaceous taste. An extract made from them by water is likewise almost insipid; and an extract made by spirit has only a weak aromatic bitterness. Baierus informs us, in a dissertation on this plant, that by fermenting a large quantity of it, and afterwards distilling, and cohobating the distilled water, a fragrant sapid liquor was obtained, with a thin fragrant oil on the surface. The flowery tops are considerably stronger than the leaves, and hence should seem to be preferable for medicinal use."[a]

This plant, though rarely used at present, was by the ancients held in great estimation. Hippocrates[b] very frequently mentions Artemisia: he thought it of great use in promoting uterine evacuations: with this intention it was also employed by Dioscorides;[c] and Galen for this purpose used it in the way of fomentation; a practice which seems in some measure conformable to that of the Chinese women, who, as we are told,[d] make a poultice of the leaves of this plant, mixed with rice and sugar, which in cases of amenorrhœa, and hysteria, instar bellarii ingerunt. If this herb however possesses any powers as an antihysteric or uterine, they are very weak; the London College has therefore properly expunged it from the materia medica.

Moxa is a substance prepared in Japan from the dryed tops and leaves of Mugwort,[e] by beating and rubbing them between the hands till only the fine internal lanuginous fibres remain, which are

[a] *Lewis, M. M. p.* 117. [b] *De Morb. Mul. lib.* 1.

[c] *Mat. Med. lib.* 3. *cap.* 10. [d] *Ten. Rhyne de Arthr. p.* 133.

[e] This however is not the species of Artemisia from which the eastern Moxa is made, but that prepared from this plant in Germany was found to answer very well. See *Eph. Nat. Cur. Dec.* 3. *A.* 7. 8. *App.* 141.

It has also been made from the down of Verbascum.

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then combed and formed into little cones. These, used as cauteries, are greatly celebrated in eastern countries for preventing and curing many disorders;[f] but chronic rheumatisms, gouty, and some other painful affections of the joints, seem to be the chief complaints for which they can be rationally employed. The manner of applying the Moxa is very simple: the part affected being previously moistened, a cone of the Moxa is laid, which being set on fire at the apex, gradually burns down to the skin, where it produces a dark coloured spot: by repeating the process several times, an eschar is formed of any desired extent, and this on separation leaves an ulcer, which is kept open or healed up as circumstances may require.

It is said that the use of the Moxa was originally introduced by the Jesuits;[g] but it is probably of greater antiquity. From remote times it has been the practice to cauterize the affected parts by various means. Hippocrates for this purpose not only used iron but flax, also a species of Fungus;[h] and the Laplanders still prefer the Agaric, (Boletus igniarius) which they prepare and use in a similar way, as the Japanese do their Moxa.[i] The Egyptians produced the same effects by means of cotton or linen cloth;[k] and in Spain a Moxa is prepared from a species of the Echinops.

[f] For a full account of these see Kæmpfer *Amæn. exot. p.* 502, *&c.* Also Abbé Grosier *(Hist. of China)* from whom it appears, that mirrors of ice or metal were used for the purpose of igniting the moxa; and that the ancient Chinese made paper, and a kind of cloth, of the down of artemisia.

[g] See *Recueil d'observations curieuses, tom. ii. p.* 114.

[h] *Lib. de affect.* §. 30.

[i] Harmens and Fiellstrom *Diss. Med. Lapp. in Hall. Collect. diss. pract. tom. vi. p.* 728. [k] Prosper Alpinus, *Lib. iii. c.* 12. *p.* 209.

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ARTEMISIA MARITIMA. SEA WORMWOOD.

SYNONYMA. Absinthium maritimum. *Pharm. Lond.* Absinthium seriphium Belgicum. *Bauh. Pin. p.* 139. *J. Bauh. Hist. iii. p.* 188. Absinthium seriphium sive marinum Anglicum. *Park. Theat. p.* 102. Absinthium marinum album. *Gerard. Emac. p.* 1099. *Raii Hist. p.* 370. *Synop. p.* 189. *Huds. Flor. Ang. p.* 359. *Withering Bot. Arrang. p.* 890. *Smith. Flor. Brit.* 864.

Sp. Ch. A. foliis multipartitis tomentosis racemis cernuis flosculis femineis ternis.

THE root is perennial, spreading, and fibrous: the stems are procumbent, branched, about a foot in height, and covered with a white down or cotton: the leaves are numerous, irregularly divided into many segments, which are narrow, linear, and covered both above and below with a fine cotton-like substance, giving the whole plant a whitish appearance: the flowers are of a brownish yellow colour, and placed in pendent spikes: the calyx is composed of many roundish scales: three florets at the circumference are female, the others are hermaphrodite, and both in their structure resemble those of absinthium. It is a native of Britain, growing plentifully on the sea shore, and about salt marshes, and flowers in August and September.

This plant seems to have been formerly confounded with the A. pontica, or Roman Wormwood, as appears by Ray[a] and Dale;[b] their specific differences however are very evident. Its taste and smell

[a] "Absinthii speciem Londini & alibi in Anglia coli solitam nomine Absinthii Romani, non aliter ab hoc differre putamus quam culturà & loco natali." &c. *Hist. p.* 370.

[b] Speaking of this plant, he says, "Mulierculæ Botanopolæ Londinenses Absinthium romanum vocant." *Pharm. p.* 99.

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are considerably less unpleasant[c] than those of the common Wormwood; and even the essential oil, which contains the whole of its flavour concentrated, is somewhat less ungrateful, and the watery extract somewhat less bitter, than those of the common wormwood. Hence it is preferred by the London College in those cases where the A. Absinthium is supposed to be too offensive to the stomach.‡ But as the efficacy of these plants depends upon their sensible qualities, this species, though its virtues approach to those of common wormwood, yet from being less powerfully bitter, must be considered in a proportionate degree a less powerful medicine.

A conserve of the tops of this plant is directed by the London Pharmacopœia.

[c] "In its wild state it smells like Marum or Camphor, but in our gardens it is less grateful." *Withering*, *l. c.*

The salt of Wormwood, which is obtained from the ashes of the A. Absinthium, differs not from other vegetable fixed alkali, provided they be equally pure.

‡ It appears by Dioscorides, that the ancients believed it to disorder the stomach: "Absinthium marinum, quidam σηριφιον vocant, est herba prætenuibus surculis abrotoni parvi similitudine, minutulis referta seminibus, subamara *stomacho inimica* graveolens, & cum quadam calefactione astringens." *l.* 3. *c.* 27.

ARTEMISIA SANTONICA. TARTARIAN SOUTHERNWOOD.

SYNONYMA. Santonicum. *Pharm. Lond. & Edinb.* Absinthium Santonicum Alexandrinum. *Bauh. Pin. p.* 139. *Raii Hist. p.* 368. Sementina. *Gerard Emac. p.* 1100. Semen sanctum. *Lob. ic.* 758. Absinthium Seriphium Ægyptium & semen sanctum, Scheba Arabum. *Camer. Epit. p.* 457. Absinthium Santonicum alexandrinum, sive sementina & semen sanctum. *Park. Theat. p.* 102. Artemisia fruticosa incana ramosissima, corymbis sessilibus spicatis subrotundis, foliis superioribus linearibus brevissimis obtusiusculis. *Gmel. Lib.* 11. *p.* 115. *t.* 51.

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Sp. Ch. A. foliis caulinis linearibus pinnato-multifidis, ramis indivisis, spicis secundis reflexis, floribus quinquefloris.

THE root is perennial: the stem is round, smooth, branched, somewhat hoary, and rises about two feet in height: the lower leaves are divided into many narrow linear segments, standing in a pinnated order; those of the branches are sessile, narrow, and undivided; they are all of a pale green on the upper side, and whitish beneath: the flowers are roundish, brown, and placed in spikes upon short slender alternate peduncles: the calyx is composed of numerous narrow scales: the florets are male and female, placed upon a naked receptacle, and in their situation and structure agree with the other species of Artemisia already described. It is a native of Siberia, and flowers in September.

This species, which was first cultivated in England by Mr. P. Miller,[a] we obtained at the Royal Garden at Kew; but whether it is the officinal Santonicum, or not, seems very doubtful.*

It appears by the species plantarum, that though Linnæus first considered this plant to be the Santonicum, afterwards however he changed his opinion, and referred it to another species, named Artemisia judaica;[b] and in this he has been followed by Murray and Bergius; but as the evidence upon which this determination is founded, is admitted by Linnæus himself to be still inconclusive,[c] we have in conformity to the London College adopted the Artemisia originally referred to.

[a] See *Aiton's Hort. Kew.*

* The following observation of Geoffroy on this subject is still, in some measure, applicable:—"Nulla quidem res in officinis magis usitata & cujus origo minus cognita sit. Num in Gallia proveniat, in Palæstina, in Ægypto, vel in Persia, aut in solo regno, *Boutan*, in India orientali remotissima." *M. M. vol. ii. p.* 466.

[b] *Mantissa, p.* 111. *& p.* 281. And *Mat. Med.* second Edition.

[c] He enumerates the seeds of this plan among those of the other plants hitherto not sufficiently ascertained. See his *Preface* to the *Materia Medica.*

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The seed of Santonicum or Wormseed is small, light, oval, composed as it were of a number of thin membranous coats, of a yellowish green colour, with a cast of brown; easily friable on being rubbed between the fingers, into a fine chaffy kind of substance.

These seeds are brought from the Levant;[d] they have a moderately strong and not agreeable smell, somewhat of the wormwood kind; and a very bitter subacrid taste. Their virtues are extracted both by watery and spirituous menstrua.

These seeds, in common with the other Artemisias, are esteemed to be stomachic, emmenagogue,[e] and anthelmintic; but it is especially for the last mentioned powers that they have been generally administered; and from their efficacy in this way they obtained the name of Wormseed. Their quality of destroying worms has been ascribed solely to their bitterness; but it appears from Baglivi, that worms (lumbrici) immersed in a strong infusion of these seeds, were killed in five, and according to Redi, in seven or eight hours,[f] while in the infusion of Wormwood, and in that of Agaric the worms continued to live more than thirty hours; and hence it has been inferred that their vermifuge effects could not wholly depend upon the bitterness of this seed. To adults the dose in substance is from one to two drams twice a day. Lewis thinks that the spirituous extract is the most eligible preparation of the Santonicum for the purposes of an anthelmintic.

[d] *Lewis, M. M. p.* 580.

[e] Remarkable effects of the Santonicum in this way are related by Bergius:— "Puellæ cuidem decenni, vermibus conflictanti, semina Santonici exhibui, sed per illud tempus quo iis utebatur, menses fluxerunt, qua re cognita, usum eorundem dissuasi, unde etiam fluxus sponte cessavit." *M. M. p.* 668.

[f] *Bagliv. Oper. p.* 60. *Redi de animal. viv. p.* 159.

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INULA HELENIUM. COMMON INULA, Or, ELECAMPANE.

SYNONYMA. Enula Campana. *Pharm. Lond.*. Helenium. *Gerard Emac. p.* 793. *Raii Hist. p.* 273. *Synop. p.* 176. Helenium vulgare. *Bauh Pin. p.* 276. Helenium sive Enula campana. *J. Bauh. Hist. iii. p.* 108. *Park. Theat. p.* 654. Aster foliis ovato-lanceolatis, serratis, subtus tomentosis, calycinis ovato-lanceolatis, maximis. *Hal. Stirp. Helv. n.* 72. Inula Helenium. *Hudson Flor. Ang. p.* 368. *With. Bot. Arr. p.* 922. *Flor. Dan.* 728. *Smith Flor. Brit.* 890. *Flor. Dan.* 728.

Class. Syngenesia. *Ord.* Polygamia Superflua. *Lin. Gen. Plant.* 956.

Ess. Gen. Ch. Recept. nudum. Pappus simplex. *Antheræ* basi in setas duas desinentes.

Sp. Ch. T. foliis amplexicaulibus ovatis rugosis subtus tomentosis, calycum squamis ovatis.

THE root is perennial, large, thick, branched, externally brown or grey, internally whitish: the stalk is upright, strong, round, striated, branched, beset with soft hairs, and rises three or four feet in height: the leaves are large, ovate, serrated, crouded with reticular veins, supplied with a strong fleshy midrib, on the upper pagina smooth, on the under downy: the leaves, which are placed on the upper part of the stem are sessile, and surround the branches, but those towards the bottom stand upon footstalks: the flowers are large, yellow, of the compound kind, and terminate the stem and branches: the calyx is composed of several rows of strong imbricated ovate segments: the corolla consists of numerous florets, which are of two kinds; those occupying the *centre* are of a regular tubular form, divided at the brim into five small segments, and are *hermaphrodite,* each containing five short filaments, which have their

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antheræ united so as to form a hollow cylinder and a long germen, which supports a slender style, about the length of the tube, and furnished with a bifid stigma: the florets at the *circumference* are *female*, and at the lower part tubular, but at the upper ligulated or strap-shaped, and cut at the extremity into three narrow pointed teeth; the female part is similar to that in the hermaphrodite florets: the seeds are solitary, striated, quadrangular, and furnished with a simple feather or pappus: the receptacle is naked and flat. It is a native of England, growing in moist meadows, and flowers in July and August.

It is probable, that Elecampane is the Helenium foliis verbasci of Dioscorides,[a] and the Inula of Pliny,[b] who also mentions Helenium but as a very different plant.[c] Elecampane is seldom to be met with in its wild state, but it is commonly cultivated in gardens, from whence the shops are supplied with the root, which is the part directed for medicinal use. "This root, in its recent state, has a weaker and less grateful smell than when thoroughly dried and kept for a length of time, by which it is greatly improved, its odour then approaching to that of Florence orris. Its taste, on first being chewed, is glutinous and somewhat rancid, quickly succeeded by an aromatic bitterness and pungency. Spirituous liquors extract its virtues in greater perfection than watery; the former scarce elevate any thing in distillation; with the latter an essential oil arises, which concretes into white flakes: this possesses at first the flavour of the Elecampane, but generally loses it on keeping. An extract, made

[a] *Lib. i. cap.* 27. [b] *Lib. xix. cap.* 5

[c] "Helenium e lacrymis Helenæ natum, & ideo in Helena insula laudatissimum. Est autem frutex humi se spargens dodrantalibus ramulis, folio simili serpyllo." *Lib. xix. c.* 9.

The Inula is noticed by Horace:

"Erucas virides, inulas ego primus amaras
Monstravi incoquere." SAT. 8. v. 51.

——— quum rapula plenus
Atque acidas mavult inulas. SAT. 2. v. 44.

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with water, possesses the bitterness and pungency of the root, but in a less degree than that made with spirit."

The high opinion entertained by the ancients of the virtues of Elecampane may be collected from the words of Schröder, who says, "Abstergit, discutit, aperit, pulmonica est. Stomachica, alexipharmaca, sudorifera, &c. *Usus præctp.* in tartaro pulmonum renumque attenuando, ac educendo, & hinc in tussi, asthmate, in cruditatibus ventriculi emendandis, ureteribus reserandis, in peste, contagiosisque morbis arcendis, in scabie."[d] Bergius also ascribes many virtues to this root, and from its sensible and chemical qualities it promises to be a medicine of some efficacy; but in the diseases in which it is principally recommended, as dyspepsia, pulmonary affections, and uterine obstructions, we have no satisfactory evidence of its medicinal powers.[e] One dram of this root in infusion, and from two drams to half an ounce in decoction, is said to be the dose usually given.

[d] P. 602. See *Alston's M. M. vol i. p.* 454.

[e] See Cullen's *M. M. vol. ii. p.* 459.

TANACETUM VULGARE. COMMON TANSY.

SYNONYMA. Tanacetum. *Pharm. Lond. & Edinb. Raii Hist. p.* 365. *Synop. p.* 188. *Gerard Emac. p.* 650. Tanacetum vulgare luteum. *Bauh. Pin. p.* 132. Tanacetum vulgare. *Park. Theat. p.* 80. *Hudson Fl. Ang. p.* 357. *Withering. Bot. Arrang. p.* 887. *Flor. Dan. p.* 871. *Smith.* 862. Tanacetum foliis pinnatis, pinnis semipinnatis, acute dentatis. *Hal. Stirp. Helv. n.* 132.

Class Syngenesia. *Ord.* Polygamia Superflua. *Lin. Gen. Plant.* 944.

Ess. Gen. Ch. Recept. nudum *Pappus* submarginatus. *Cal.* imbricatus, hemisphæricus. *Cor.* radii obsoletæ, 3-fidæ.

Sp. Ch. T. foliis bipinnatis incisis serratis.

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THE root is perennial, long, creeping, and fibrous: the stem is strong, erect, often reddish, branched towards the top, smooth, beset with leaves, and rises two or three feet in height: the leaves are doubly pinnated; lesser pinnæ, numerous, notched, or deeply serrated; principal ribs edged with leafy clefts: the flowers are yellow, compound, and produced in a corymbus: the calyx consists of numerous small imbricated squamæ, forming a common perianthum of an hemispherical shape: *the florets at the disc are hermaphrodite*, tubular, divided at the mouth into five pointed segments: *the florets at the border are female*, and cut at the brim into three teeth: the filaments are five, very short, slender, and furnished with antheræ, which unite and form a hollow cylinder: the germen in both the hermaphrodite and female florets is oblong, small, and supports a filiform style, furnished with a cloven reflexed stigma: the seeds are naked, solitary, and of an oblong shape: the receptacle is convex and naked. It is a native of England, growing in moist pastures, borders of corn fields, roads, and rivers, and flowering in July and August.

This species, of which there is a variety, *foliis crispis*, the curled Tansy, which is said to be more grateful to the stomach than the common Tansy, and has therefore been preferred by some for medical purposes; but as the sensible qualities of the latter seem most powerful, we judge it to be most efficacious.

"The leaves and flowers of Tansy have a strong, not very disagreeable smell, and a bitter somewhat aromatic taste: the flowers are stronger though rather less unpleasant than the leaves. They give out their virtue both to water and spirit, most perfectly to the latter: the tincture made from the leaves is of a fine green; from the flowers of a bright pale yellow colour. Distilled with water they yield a greenish-yellow essential oil, smelling strongly of the herb: the remaining decoction, inspissated, affords a strong bitter subsaline extract. The spirituous tinctures give over also, in distillation, a considerable part of their flavour; a part of it remaining along with the bitter matter, in the extract."[b]

[b] Lewis, *M. M. p.* 633.

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According to Bergius, the virtues of Tansy are tonic, stomachic, anthelmintic, emmenagogue, and resolvent;[c] qualities usually attributed to bitters of the warm or aromatic kind; many of which we have had occasion to notice under the genus Artemisia, which is closely allied to that of Tanacetum in its botanical character. Tansy has been much used as a vermifuge, and testimonies of its efficacy are given by many respectable physicians:[d] not only the leaves but the seeds have been employed with this intention, and substituted for those of Santonicum.[e]

We are told by Dr. Clark, that in Scotland Tansy was found to be of great service in various cases of gout;[f] and Dr. Cullen, who afterwards was informed of the effects it produced upon those who had used the herb for this purpose, says, "I have known several who have taken it without any advantage, and some others who reported that they had been relieved from the frequency of their gout."[g]

Tansy is also recommended in the hysteria, especially when this disease is supposed to proceed from menstrual obstructions.

This plant may be given in powder to the quantity of a dram, or more, for a dose; but it has been more commonly taken in infusion, or drunk as tea.

[c] *Mat. Med. p.* 664.

[d] Hoffman speaks highly of its efficacy. See *Med. Syst. T.* 4. *P.* 2. *p.* 333. See also *Supp. p.* 87. Rosenstein, *Bskd.* cap. de vermibus. [e] The latter however are much more bitter and aromatic. See *Lewis, l. c.* [f] Vide, *Essays and Obs. physical and lit. vol. iii. p.* 438. [g] *Mat. Med. vol. ii. p.* 80.

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CYNARA SCOLYMUS. COMMON ARTICHOKE.

SYNONYMA. Cinara. *Pharm. Lond. & Edinb.* Cinara hortensis foliis non aculeatis. *Bauh. Pin. p.* 383. Cinara maxima alba. *Gerard. Emac. p.* 1153. Cinara sativa alba. *Park. Parad. p.* 519. Carduus sive Scolymus sativus non spinosus. *J. Bauh. Hist. vol. iii. p.* 48. *Raii Hist. p.* 299.

α Cinara hortensis aculeata. C. B. *French Artichoke.*

β C. hortensis foliis non aculeatis. C. B. *Globe Artichoke.*

Class Syngenesia. *Ord.* Polygamia Æqualis. *Lin. Gen. Plant.* 928.

Ess. Gen. Ch. *Cal.* dilatatus, imbricatus squamis carnosis, emarginatis cum acumine.

Sp. Ch. C. foliis subspinosis pinnatis indivisisque, calycinis squamis ovatis.

THE root is perennial, large, and fibrous: the stem is thick, strong, branched, striated, and rises about three feet in height: the leaves are large, of an irregular shape, pinnatifid, obtuse, bent downwards, and stand upon strong scored footstalks; on the upper side they are smooth and veined, and on the under reticulated, hoary, and downy: the flowers terminate the stem and branches upon thick fleshy peduncles: the common calyx is globular, three or four inches in diameter, and composed of numerous ovate scales, which at the base are thick and fleshy, at the apex tough, membranous, shining, notched, but with a spinous point in the centre: the florets of the corolla are numerous, blue, and equal in size, each consisting of one leaf, which is funnel-shaped, and at the base forms a slender tube; at the limb it is erect, and divided into five segments; five filaments, which are capillary, very short, and furnished with antheræ, which form a cylindrical tube of the length

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of the corolla, and five toothed: a germen of an ovate form, which supports a slender style, longer than the stamina, and terminated by a simple, oblong, notched stigma: the seeds are oblong, obscurely quadrangular, and furnished with a long sessile feathery pappus: the receptacle is bristly. It flowers in August and September.

The Artichoke is a native of the southern parts of Europe. It was cultivated here by Turner;[a] and as a culinary article it is common in most kitchen gardens.

The receptacles, or bottoms of the heads, and the fleshy part of the scales are usually eaten, and though thought by Galen to generate bile and melancholy, are wholesome and nutritious. The Arabians noticed their diuretic qualities, and therefore deemed them useful to carry off morbid matter by the kidneys.[b]

The leaves are bitter, and afford by expression a considerable quantity of juice, which when strained and mixed with an equal part of white wine, has been given successfully in dropsies;[c] for this purpose two or three spoonfuls of the mixture are to be taken night and morning. An infusion of the leaves are likewise diuretic, and may be employed with the same intention.

[a] Antecedent to the year 1551.

[b] See *Sebizius de Aliment. facult. p.* 346.

[c] Vide *Journal etranger.* and Aaskow in *Act. Soc. Med. Havniens. vol. i. p.* 201.

CICHORIUM INTYBUS. WILD, or BLUE SUCCORY.

SYNONYMA. Cichoreum. *Pharm. Geoff. iii.* 319. *Dale.* 84. *Alston. i.* 412. *Lewis.* 227. *Edinb. New Disp.* 171. *Murray. i.* 100. *Bergius.* 650. Cichorium sylvestre, sive officinarum. *Bauh. Pin.* 126. *Gerard. Emac.* 284. *Park. Theat.* 776. *Ray. Hist.* 255. C. Intybus. *Hudson Flor. Ang.* 348. *Withering. Bot. Arr.* 862. *Curt. Flor. Lond.* 241. *Smith. Flor. Brit.* 843. *Flor. Dan.* 150.

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Class Syngenesia Polygamia Æqualis. *Lin. Gen. Plant.* 921.

Gen. Ch. *Receptaculum* subpaleaceum, *Cal.* calyculatus.
Pappus sub-5-dentatus, obsolete pilosus.

Sp. Ch. C. floribus geminis sessilibus, foliis runcinatis.

ROOT perennial, long, tapering, branched, or spindle-shaped; externally yellowish, internally white, lactescent. Stalk erect, rough, branched, angular, from one to two or even three feet in height. Leaves at the root numerous, pinnatifid, or cut into irregular segments like those of dandelion: on the stalk they are alternate, sessile, somewhat spear-shaped, but indented and rough at the base. Flowers compound, large, blue, commonly in pairs. Calyx common to all the florets, composed of a double set of leaves, of which the outer are in number five, ovate, spreading, and fringed with glandular hairs; the inner set consists of about eight. Corolla composed of hermaphrodite florets, which are regular, blue, and about twenty in number, each consisting of a short white tube, from which arises a long flat ribbed limb, divided at the extremity into five teeth. Filaments white, slender, unconnected. Antheræ blue, forming a hollow angular cylinder. Germen conical, crowned with short hairs. Style filiform. Stigmata two, rolled back, blue. Seeds numerous, naked, angular, lodged at the bottom of the calyx.

It commonly grows about the borders of corn fields, and flowers in July and August.

This plant belongs to the same family with the garden endive, and by some botanists has been supposed to be the same plant in its uncultivated state; but the endive commonly used as sallad is an annual, or at most a biennial plant, and its parent is now known to be the Cichorium Endivia.

It appears from Horace and others,[a] that the Cichorea was com-

[a] —— —— Me pascunt olivæ
Me cichorea, levesque malvæ. *Hor. Od.* 31.
"Cichorea, & teneris frondens lactucula fibris." *Juvenal.*

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monly eaten by the Romans; and according to Pliny[b] this name signified the wild species of the plant. The Intybus and Seris are also mentioned as its congeners, the latter implying the cultivated species.

Wild Succory, or Cichory, as it has been called, "abounds with a milky juice, of a penetrating bitterish taste, and of no remarkable smell, or particular flavour: the roots are bitterer than the leaves or stalks, and these much more so than the flowers."

By culture in gardens, and blanching, it loses its bitterness, and may be eaten early in the spring in sallads. The roots, if gathered before the stems shoot up, are also eatable, and when dried may be made into bread.[c]

The roots and leaves of this plant are stated by Lewis to be "very useful aperients, acting mildly and without irritation, tending rather to abate than to increase heat, and which may therefore be given with safety in hectic and inflammatory cases. Taken freely, they keep the belly open, or produce a gentle diarrhæa; and when thus continued for some time, they have often proved salutary in beginning obstructions of the viscera, in jaundices, cachexies, hypochondriacal and other chronical disorders."[d]

A decoction of this herb, with others of the like kind, in whey, and rendered purgative by a suitable addition of polychrest salt, was found an useful remedy in cases of biliary calculi,[e] and promises advantage in many omplaints requiring what have been termed attenuants and resolvents. The virtues of Succory, like those of dandelion, reside in its milky juice; and in most of the plants of the order Semiflosculosæ, a juice of a similar nature is to be found; therefore what has been before observed of the effects of taraxacum, will, in a great measure, apply to the Cichorium; and we are warranted in saying, that the expressed juice of both these plants,

[b] *Lib. xx. c.* 8. [c] *Withering. l. c.*

[d] *Lewis l. c.*

[e] Van Swieten. *Comment. T. iii. p.* 137.

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taken in large doses, frequently repeated, has been found an efficacious remedy in phthisis pulmonalis, as well as in the various other affections above mentioned.

The seeds of the Cichorium, which are small, angular, and of a brown colour, are reckoned among the *four smaller cooling seeds.*

MATRICARIA PARTHENIUM. COMMON FEVERFEW.

SYNONYMA. Matricaria. *Pharm. Geoff. iii.* 825. *Dale.* 97. *Alston. ii.* 175. *Lewis.* 414. *Ed. New. Dispens.* 227. *Murray. i.* 148. *Bergius.* 687. *Cullen. ii.* 364. Matricaria vulgaris sive sativa. *Bauh. Pin.* 133. *Gerard. Emac.* 652. *Park. Theat.* 83. *Ray. Hist.* 357. *Synop.* 187. *Hall. Hist. Stirp. Helv. n.* 100. M. Parthenium. *Huds. Flor. Ang.* 371. *Withering. Bot. Arr.* 931. *Ic. Flor. Dan.* 192. Pyrethrum Parthenium. *Smith Flor. Brit.* 900.

Syngenesia. Polygamia Superflua. *Lin. Gen. Plant.* 967.

Gen. Ch. Recept. nudum. *Pappus nullus. Cal.* hemisphæricus, imbricatus: marginalibus solidis, acutiusculis.

Sp. Ch. M. foliis compositis planis: foliolis ovatis incisis, pedunculis ramosis.

ROOT perennial, composed of numerous long fibres. Stalk erect, firm, much branched, striated, round, smooth, rising above two feet in height. Leaves alternate, hairy, pinnated; lobes irregular, toothed, blunt; terminal lobe bifid. Flowers large, compound, at the centre yellow, at the radius white, upon long peduncles, forming a kind of umbel. Calyx common to all the florets, hemispherical, and composed of numerous ovate squamæ, which are membranous at the border. Florets at the radius, female, oblong, about two lines in breadth, terminated by three small teeth. Stigma

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bifid, turned in opposite directions. Florets of the disk numerous, tubular, hermaphrodite, five-toothed. Filaments five, capillary, very short. Antheræ forming a hollow cylinder. Seeds egg-shaped, truncated at the base, furrowed, whitish, without pappus.

It is common about hedges, walls, and waste grounds, flowering in June and July.

"The leaves and flowers of Feverfew have a strong not agreeable smell, and a moderately bitter taste, both which they communicate, by warm infusion, to water and rectified spirit. The watery infusions, inspissated, leave an extract of considerable bitterness, and which discovers also a saline matter both to the taste and in a more sensible manner by throwing up to the surface small crystalline efflorescences in keeping: the peculiar flavour of the Matricaria exhales in the evaporation, and impregnates the distilled water, on which also a quantity of essential oil is found floating. The quantity of spirituous extract, according to Cartheuser's experiments, is only about one-sixth the weight of the dry leaves, whereas the watery extract amounts to near one-half."

This plant is evidently the Parthenium of Dioscorides, since whose time it has been very generally employed for medical purposes. In natural affinity it ranks with camomile and tansy, and its sensible qualities show it to be nearly allied to them in its medicinal character. Bergius states its virtues to be tonic, stomachic, resolvent, and emmenagogue. It has been given successfully as a vermifuge, and for the cure of intermittents; but its use is most celebrated in female disorders, especially in hysteria;[a] and hence it is supposed to have derived the name Matricaria.[b]

Its smell, taste, and analysis prove it to be a medicine of considerable activity; we may therefore say with Murray, "Rarius "hodie præscribitur, quam debetur."

[a] According to Sim. Paulli, its efficacy in this disorder was very remarkable. *Quadrip. p.* 432.

[b] "Παρθένιον, quasi virginalis, quod morbis mulierum uterinis medeatur, hinc vulgo matricaria." &c.—*C. B.*

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LACTUCA VIROSA. STRONG-SCENTED WILD LETTUCE.

SYNONYMA. Lactuca virosa. *Pharm. Edinb. nov. New. Ed Dispens.* 217. *Murray. App. Med. vol.* 6. 13. Lactuca sylvestris, odore viroso. *Bauh. Pin.* 123. Lactuca sylvestris major, odore opii. *Gerard. Emac.* 309. Lactuca Endiviæ foliis, odore viroso. *Park.* 813. *Ray. Hist.* 219. *Synop.* 161. *Haller. Hist.* 15. L. virosa. *Hudson, Flor. Ang.* 337. *Withering. Bot. Arr.* 835. *Ic. Collin. Obs. vi. præf. Smith Flor. Brit.* 819.

Syngenesia. Polygamia Æqualis. *Lin. Gen. Plant.* 909.

Gen. Ch. Recept. nudum. *Cal.* imbricatus, cylindricus, margine membranaceo. *Pappus* simplex, stipitatus. *Sem.* lævia.

Sp. Ch. L. foliis horizontalibus carina aculeatis dentatis.

ROOT biennial, tapering, branched, firm, furnished with long fibres. Stalk from two to four feet high, slender, erect, round, prickly near the base, above smooth, branched. Branches spreading. Leaves at the root oblong, wedge-shaped, entire, or cut into winged clefts, toothed, commonly prickly at the underside of the midrib, sessile, horizontal: leaves on the stem arrow-shaped, embracing the stalk, either entire or cut into pinnated lobes: upper and floral leaves arrow-shaped, entire, pointed, embracing the branches at which they are placed. Flowers composed of numerous equal yellow florets. Calyx oblong, consisting of several small spear-shaped unequal scales. Florets numerous, uniform, hermaphrodite, each composed of narrow petals, cut at the extremity into four or five minute teeth. Filaments five, very short, hair-like. Antheræ forming a cylindrical tube. Germen egg-shaped. Style filiform. Stigmata two, reflexed. Seeds ovate, compressed, lodged upon the naked receptacle, and furnished with a simple hairy feather placed upon a footstalk.

It grows about ditch banks, borders of fields, and old walls, flowering in July and August.

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This plant has a strong ungrateful smell, resembling that of opium, and a bitterish acrid taste; it abounds with a milky juice, in which its sensible qualities seem to reside, and which appears to have been noticed by Dioscorides, who describes the odour and taste of this juice as nearly agreeing with that of the white poppy; its effects are also said, according to Haller, to be powerfully narcotic.

Dr. Collin, at Vienna, (whose name has been frequently mentioned in the course of this work) first brought the Lactuca virosa into medical repute,[a] and its character has lately induced the College of Physicians at Edinburgh to insert it in the catalogue of the Materia Medica. More than twenty-four cases of dropsy are said by Collin to have been successfully treated, by employing an extract prepared from the expressed juice of this plant; which is stated not only to be powerfully diuretic, but by attenuating the viscid humours to promote all the secretions, and to remove visceral obstructions. In the more simple cases, proceeding from debility, the extract, in doses of eighteen to thirty grains a day, proved sufficient to accomplish a cure: but when the disease was inveterate, and accompanied with visceral obstructions, the quantity of extract was increased to three drams: nor did larger doses, though they excited nausea, ever produce any other bad effect; and the patients continued so strong under the use of this remedy, that it was seldom necessary to employ any tonic medicines.

Though Dr. Collin began his experiments with the Lactuca at the Pazman hospital, at the time he was trying the arnica in 1771, yet very few physicians, even at Vienna, have since adopted the use of this plant.

Plenciz indeed has published a solitary instance[b] of its efficacy, while Quarin[c] informs us that he never experienced any good effect

[a] *Observ. circa Morb. P. vi.*

[b] Joseph de Plenciz. *Act. & Obs. Med.* p. 107.

[c] Animadv. *Pract.* p. 188.

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from its use, alledging that those, who were desirous of supporting its character, mixed with it a quantity of extractum scillæ. Under these circumstances we shall only say, that the recommendation of this medicine by Dr. Collin, will be scarcely thought sufficient to establish its use in England.

ORD. IV. AGGREGATÆ.

(From *aggregare* to assemble), comprehending those plants which have aggregate flowers or a number of florets, each of which has a proper and common calyx.

VALERIANA OFFICINALIS. OFFICINAL VALERIAN.

SYNONYMA. Valeriana sylvestris. *Pharm. Lond. & Edinb.* Valeriana sylvestris major. *Bauh. Pin. p.* 164. *Gerard. Emac. p.* 1075. *Park. Theat. p.* 122. *Rait Hist. p.* 388. *Synop. p.* 200. Valeriana foliis pinnatis, pinnis dentatis. *Hal. Hist. Sttrp. Helv. n.* 210. Valeriana officinalis. *Hudson. Flor. Ang. p.* 12. *Withering. Bot. Arr. p.* 66. *Smith Flor. Brit.* 36. *Curt. Lond. fasc.* 6. t. 3. *Eng. Bot.* 698.

* Foliis angustioribus.

Class Triandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 44.

Ess. Gen. Ch. Cal. 0. *Cor.* 1-petala, basi hinc gibba, supera. *Sem.* 1.

Sp. Ch. V. floribus triandris, foliis omnibus pinnatis.

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THE root is perennial, consisting of a great number of simple fibres, which unite at their origin: the stalk is upright, smooth, channelled, round, branched, and rises from two to four feet in height: the leaves on the stem are placed in pairs upon short broad sheathes; they are composed of several lance-shaped, partially dentated, veined, smooth pinnæ, with an odd one at the end, which is the largest: the radical leaves are larger, stand upon long footstalks, and the pinnæ are elliptical, and deeply serrated: the floral leaves are spear-shaped and pointed: the flowers are small, of a white or purplish colour, and terminate the stem and branches in large bunches: there is no calyx, or only a small narrow rim: the corolla consists of a narrow tube, somewhat swelled on the under side, and divided at the limb into five obtuse segments: the three filaments are tapering, longer than the corolla, and furnished with round antheræ: the germen is placed beneath the corolla, and supports a slender style, shorter than the filaments, and terminated by a thick bearded stigma: the capsule is crowned with a radiated feather, and contains one seed of an oblong shape. It flowers in June, and commonly grows about hedges and woods.

The narrower-leaved variety of this species of Valerian, which does not exceed two feet in height, and affects dry heaths and high pastures, is justly in more repute than the other; its roots manifest stronger sensible qualities, and consequently possess more medicinal power; their smell is strong, and has been compared to that of a mixture of aromatics with fetids; their taste unpleasantly warm, bitterish, and subacrid. "The powdered root, infused in water or digested in rectified spirit, impregnates both menstrua strongly with its smell and taste. Water distilled from it smells considerably of the root, but no essential oil separates, though several pounds be submitted to the operation at once."†

Valerian is supposed to be the φυ of Dioscorides and Galen,* by

† *Lewis, M. M.*

* Græcis φυ esse credo, a φυ abominantis: olet enim radix felinum quid, non tamen sine grato odore nardi *Hoff.* "This smell is highly delightful to cats; rats are also said to be equally fond of these roots, and that rat-catchers employ them to draw the rats together." *Withering, l. c.*

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whom it is mentioned as an aromatic and diuretic: it was first brought into estimation in convulsive affections by Fabius Columna,[b] who relates that he cured himself of an epilepsy by the root of this plant; we are told however, that Columna suffered a relapse of the disorder, and no further accounts of the efficacy of Valerian in epilepsy followed till those published by Dominicus Panarolus[c] fifty years afterwards, in which three cases of its success are given. To these may be added many other instances of the good effects of Valerian Root in this disease, since published by Cruger,[d] Schuchmann,[e] Riverius,[f] Sylvius,[g] Marchant,[h] Chomel,[i] Sauvages,[k] Tissot,[l] and others.

The advantages said to be derived from this root in epilepsy caused it to be tried in several other complaints termed nervous, particularly those produced by increased mobility and irritability of the nervous system, in which it has been found highly serviceable.[m] Bergius[n] states its *virtus* to be antispasmodic, diaphoretic, emmenagogue, diuretic, anthelminthic.* Under the head *usus* he

[b] *Phytobasamos Neapol.* 1592. *p.* 97.

[c] *Iatrologism. s. medicin. hist. pentac. quinque Rom.* 1643. *Pentec. i. Obs.* 33. *p.* 20.

[d] *Eph. Nat. Cur. Dec.* 2. *A.* 7. *Obs.* 78.

[e] *Eph. Nat. Cur. Dec.* 2. *A.* 4. *Obs.* 44. *p.* 116. *& App. ad Dec.* 3. *A.* 3. *p.* 86.

[f] *Prax. Med. Lib. i. p.* 62. [g] *Opera, p.* 427.

[h] *Mem. de L'Acad. d. Sc. de Paris,* 1706. *p.* 333.

[i] *Pl. Usuelles. T. i. p.* 228. [k] *Nosol. Method. T. iii. P.* 2. *p.* 231. *Ed.* 8*vo.*

[l] *Traité de l'epilepsie, p.* 310.

[m] Haller says, "Ego certe ad hystericos morbos, nimiamque nervorum sensibilitatem, frequenter cum bono eventu hac radice usus sum; et in ipsa epilepsia, non malo successu. *Stirp. Helv, n.* 210. [n] *Mat. Med. p.* 30.

* He says, "Emeticam illam nunquam vidi, nec laxantem." The latter quality is however very generally ascribed to it by medical writers.

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enumerates Epilepsia, Convulsiones, Hysteria, Hemicrania, [o]Vitus hebetudo. Dr. Cullen says, "its antispasmodic powers are very well established, and I trust to many of the reports that have been given of its efficacy; and if it has sometimes failed, I have just now accounted for it,[p] adding only this, that it seems to me, in almost all cases, it should be given in larger doses than is commonly done. On this footing, I have frequently found it useful in epileptic, hysteric, and other spasmodic affections."[q] It is said however, that in some cases of epilepsy at the Edinburgh Dispensary, it was given to the extent of two ounces a day without effect;[r] and our own experience warrants us in saying, that it will be seldom found to answer the expectations of the prescriber. The root, in substance, is most effectual, and is usually given in powder from a scruple to a dram: its unpleasant flavour may be concealed by a small addition of mace. A tincture of Valerian in proof spirit, and in volatile spirit, are ordered in the London Pharmacopœia.

[o] Fordyce commends it highly in this disease, *De Hemicrania, p.* 91. Whytt, who joined it with manna, experienced its utility in epilepsy, *On Nerv. Dis. p.* 513. Joined with guaiacum, Morgan found it useful in resolving glandular or strumous humours. *Phil. princ. p.* 424.

[p] From the disease depending upon different causes, and from the root being frequently employed in an improper condition.

[q] *Mat. Med. vol. ii. p.* 372. [r] *New Ed. Dispens. by Dr. Duncan, p.* 300.

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ORD. V. CONGLOMERATÆ.

(From *con* and *glomus* a clew), comprehending those plants in which the flowers stand on the branches of the footstalk and are thus closely but irregularly connected.

PLANTAGO MAJOR. COMMON GREAT PLANTANE, Or, WAY-BREAD.

SYNONYMA. Plantago. *Pharm. Edin.* Plantago foliis petiolatis, ovatis, glabris; spica cylindrica. *Hal. Stirp. Helv. n.* 660. Plantago latifolia sinuata. *Bauh. Pin.* 189. Plantago simpliciter dicta. *Raii Hist. Plant.* 876. Plantago latifolia vulgaris. *Parkinson,* 493. Plantago vulgaris. *Gerard.* 419. Plantago Major. *Curtis, Flor. Lond. Relhan. Flor. Cantab.* p. 61. *Smith Flor. Br.* 182. *Withering, Bot. Arrang.* 142. αρνογλωσσον *Dioscorid.** (lingua agnina) Cl. Aiton pro varietatibus habet,

α Plantago latifolia vulgaris. *Park. Theat.* 493.

β Plantago major, panicula sparsa. *Bauh. Hist.* 3. *p.* 503.

γ Plantago latifolia rosea, floribus quasi in spica dispositis. *Bauh. Pin.* 189. *vide Hort. Kew.*

* (Plantago Media) It has also been named from the number of ribs, or nerves of the leaf, as πλατυφυλλος, ισοφυλλος.

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Class Tetrandria. *Ord.* Monogynia. *L. Gen. Plant* 142.

Ess. Gen. Ch. *Cal.* 4-fidus. *Cor.* 4-fida: limbo reflexo. *Stamina* longissima. *Caps.* 2-locularis, circumscissa.

Sp. Ch. ℙ. foliis ovatis glabris, scapo tereti, spicâ flosculis imbricatis.

THE root is perennial, short, thick, and puts forth several long whitish fibres, which strike down in a perpendicular direction: the leaves are oval, procumbent, irregularly subdentated, of a pale green colour, ribbed; ribs, commonly seven, often five, and sometimes nine: the footstalks are long, concave above, and proceed from the root; the flower-stems are generally three or four, about a span high, downy, round, smooth below the spike, and somewhat incurvated; the calyx is of four leaves, somewhat erect, oval, obtuse, smooth, and persistent; the flowers are small, produced on a long cylindrical imbricated spike, which occupies more than half the stem; each flower consists of a roundish tube, narrow at the mouth, and the four segments are heart shaped, pale, withered, and bent downwards; the bractea is oval, fleshy, and larger than the calyx; the stamina are whitish, longer than the corolla, and the antheræ are purple: the germen is oval, the style short and filiform, and the stigma simple; the capsule divides horizontally in the middle; and, according to Mr. Curtis, contains about twenty unequal brown seeds. It grows commonly in pastures and way-sides, and flowers in June.

The name Plantago, is omitted in the London Pharmacopœia, but it is still retained in the Materia Medica of the Edinburgh college, in which the leaves are mentioned as the pharmaceutical part of the plant: these have a weak herbaceous smell, and an austere bitterish subsaline taste; and their qualities are said to be refrigerant, attenuating, substyptic, and diuretic.

Plantago was formerly reckoned amongst the most efficacious of vulnerary herbs; and by the peasants the leaves are now commonly applied to fresh wounds, and cutaneous sores. Inwardly, they

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have been used in phthisical[a] complaints,[b] spitting of blood, and in various fluxes, both [c] alvine and hæmorrhagic. The seeds, however, seem to us better adapted to relieve pulmonary diseases than the leaves, as they are extremely mucilaginous. The roots have also been recommended for the cure of tertian intermittents; and from the experience of Bergius, not undeservedly: "Plurimæ sunt narrationes de utilitate radicis plantaginis in Tertianis. Periculum ipse feci, dosi largiori, scil. a drachmis 3 ad 6, quovis die, sub apyrexia; sed contra febres autumnales nihil valuit Plantago; in vernalibus autem febribus subinde opem tulit.[d]" An ounce or two of the expressed juice, or the like quantity of a strong infusion of Plantane, may be given for a dose; in agues the dose should be double this quantity, and taken at the commencement of the fit.

[a] Celsus, lib. 3. c. 22. Schulz, Mat. Med p. 412. Pliny, lib. 26. c. 2. Petzoldt. Eph. Nat. Cur. cent. 7. Obs. 10. p. 25. [b] Boyle de util. Phil. Nat. p. 2. p. 150. [c] Rosenst. Baskd. p. 81. [d] Mat. Med. p. 70.

"Plantane has been alledged to be a cure for the bite of the rattle-snake: but for this there is probably but little foundation, although it is one of the principal ingredients in the remedy of the Negro Cæsar, for the discovery of which he received a considerable reward from the Assembly of South Carolina." Duncan's New Edinb. Dispen.

VISCUM ALBUM. MISSLETOE.

SYNONYMA. Viscus. *Pharm. Dale.* 313. *Alston. ii.* 53. *Lewis.* 666. *Edinb. New Dispens.* 302. *Cullen. ii.* 47. *Murray. i.* 199. *Bergius.* 788. *Ger Emac.* 153. *Ray. Syn.* 464. *Hist.* 1583. Viscum baccis albis. *Bauh. Pin.* 423. Viscum vulgare. *Park. Theat.* 1392. *Hall. n.* 1609. V. album. *Hudson. Flor. Ang.* 431. *Withering. Bot. Arr.* 1112. *Ic. Mill. Illust.*

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Dioecia Tetrandria. *Lin. Gen. Plant.* 1105.

Gen. Ch. *Masc. Cal.* 4-partitus. *Cor.* 0. *Filamenta* 0. *Antheræ* calyci adnatæ.

Fem. Cal. 4-phyllus, superus. *Cor.* 0. *Stylus* 0. *Bacca* 1-sperma, *Sem.* cordatum.

Sp. Ch. V. foliis lanceolatis obtusis, caule dichotomo, spicis axillaribus.

A PARASITICAL evergreen shrub, insinuating its radical fibres into the wood of the trees on which it grows. Branches numerous, regularly dichotomous, covered with smooth bark, of a yellowish green colour. Leaves spear-shaped, blunt, entire, striated, standing in pairs upon short footstalks. Flowers male and female in different plants, small, axillary, in close spikes. Calyx of the *male flower* divided into four ovate equal segments. Corolla none. Filaments none. Antheræ four, oblong, attached to the calyx. Calyx of the *female flower* divided into four leaves, which are small, ovate, deciduous, placed on the common germen. Corolla none. Germen beneath, oblong, three-edged, indistinctly crowned with a border with four clefts. Style none. Stigma blunt, and somewhat notched. Fruit a globular white smooth one-celled berry, containing a fleshy seed, which is inversely heart-shaped, blunt, compressed.

It grows on various kinds of trees, producing its flowers in May; but its berries remain throughout the winter.

This singular parasitical plant most commonly grows on apple trees, also on the pear, hawthorn, service, oak, hasel, maple, ash, lime-tree, willow, elm, hornbeam, &c. It is supposed to be propagated by birds, especially by the fieldfare and thrush, which feed upon its berries, the seeds of which pass through the bowels unchanged, and along with the excrements adhere to the branches of trees where they vegetate.*

* Or if the berries, when fully ripe, be rubbed on the smooth bark of almost any tree, they will adhere closely and produce plants the following Winter.

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The Misseltoe of the oak, has, from the times of the ancient druids been always preferred to that produced on other trees; but it is now well known that the viscus quernus differs in no respect from others.

This plant is the ἶξος of the Greeks, and was in former times thought to possess many medicinal virtues; however, we learn but little concerning its efficacy from the ancient writers on the Materia Medica; nor will it be deemed necessary to state the extraordinary powers ascribed to the Misseltoe by the crafty designs of duidical knavery.

"Both the leaves and branches of the plant have very little smell, and a very weak taste of the nauseous kind. In distillation they impregnate water with their faint unpleasant smell, but yield no essential oil. Extracts, made from them by water, are bitterish, roughish and subsaline. The spirituous extract of the wood has the greatest austerity, and that of the leaves the greatest bitterness. The berries abound with an extremely tenacious most ungrateful sweet mucilage." §

The Viscus Quernus obtained great reputation for the cure of epilepsy; and a case of this disease, of a woman of quality, in which it proved remarkably successful, is mentioned by Boyle.[a] Some years afterwards its use was strongly recommended in various convulsive disorders by Colbach, who has related several instances of its good effects.[b] He administered it in substance in doses of half a dram, or a dram, of the wood or leaves, or an infusion of an ounce.

This author was followed by others, who have not only given testimony of the efficacy of the Misseltoe in different convulsive affections, but also in those complaints denominated nervous, in

§ *Lewis. l. c.*

[a] See *Usefulness of Nat. & Exper. Philos.* 174.

[b] *Dissertation concerning the Misseltoe, a most wonderful specifick remedy for the cure of convulsive distempers.*

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which it was supposed to act in the character of a tonic. But all that has been written in favour of this remedy, which is certainly well deserving of notice, has not prevented it from falling into general neglect; and the Colleges of London and Edinburgh have expunged it from their catalogues of the Materia Medica.

ORD. VI. UMBELLATÆ.

The umbelliferous plants form a numerous and natural association: those that grow in dry situations are commonly warm and aromatic, but those that are aquatic are narcotic and poisonous.

ANGELICA ARCHANGELICA. GARDEN ANGELICA.

SYNONYMA. Angelica. *Pharm. Lond. & Edinb.* Angelica sativa. *Bauh. Pin. p.* 155. *J. Bauh. Hist. vol.* iii. *p.* 140. *Gerard. Emac. p.* 999. *Park. Theat. p.* 939. *Rati Hist. p.* 434. *Synop. p.* 208. Angelica foliis duplicato-pinnatis, ovato-lanceolatis serratis. *Hal. Stirp. Helv. n.* 807. *Flor. Dan. t.* 206. *With.* 297. *Smith.* 31.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 138.

Ess. Gen. Ch. *Fructus* subrotundus, angulatus, solidus, *stylis* reflexis. *Corollæ* æquales: petalis incurvatis.

Sp. Ch. A. foliorum impari lobato.

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THE root is biennial, long, thick, fleshy, and furnished with numerous fibres: the stalk is thick, strong, jointed, channelled, round, of a purplish colour, rises to the height of six or eight feet, and sends off several branches, which terminate in large umbels: the leaves are pinnated, large, numerous, consisting of several pairs of oval, serrated, pointed, veined, irregular shaped lobes or pinnæ, terminated by an odd one: the flowers grow in large terminal umbels, which are round, and composed of many radii: the corolla is small, white, and divided into five petals, which have their points turned inwards: the general involucrum consists of three or five narrow pointed leaves, the partial involucrum of five, and the calyx is cut into five minute segments; the five stamina are longer than the petals, spreading, and furnished with roundish antheræ; the germen is placed below the corolla, and supports two reflected styles, crowned with obtuse stigmata: the seeds are two, oval, flat on one side, convex on the other, and marked with three furrows.—It is a native of Lapland, [a] and flowers in June and August.

Angelica, as a native of a northern climate, seems to have been unknown to the ancients. It has been cultivated in Britain more than two centuries,[b] and its medical character [c] has rendered it of sufficient importance to be very generally propagated by the English gardener.—The roots of Angelica have a fragrant agreeable smell, and a bitterish pungent taste: on being chewed they are first sweetish, afterwards acrid, and leave a glowing heat in the mouth and fauces, which continues for some time. The stalk, leaves, and seeds, which are also directed in the Pharmacopœias, appear to possess the same qualities, though in an inferior degree. It is said that "on wounding the fresh root early in the spring, it

[a] "Ubique per omnes alpes Lapponiæ juxta rivulos vulgaris est." Lin. Flor. Lap. p. 67.

[b] Cultivated in 1568. Turn. herb. part. 3. p. 5. Vide Hort. Kew.

[c] We may also add its use in confectionary.

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yields from the inner part of the bark an unctuous yellowish odorous juice, which gently exsiccated retains its fragrance, and proves an elegant aromatic gummy resin. On cutting the dry root longitudinally, the resinous matter, in which the virtue and flavour of Angelica resides, appears concreted in little veins."[d] Rectified spirit extracts the whole of the virtues of the root; water but very little; and in distillation with the latter, a small portion of very pungent essential oil may be obtained.

We are told by Linnæus, that the Laplanders entertain a high opinion of the utility of Angelica, and employ it both as food and as a medicine[e]; and since Aromatic plants are rarely inhabitants of the Polar regions, their partiality for Angelica is extremely natural: and from the enumeration of the virtues of this plant by Bergius,[f] we should also suspect him of being influenced by the same physical cause. Angelica must however be allowed to possess aromatic, and what are called carminative, powers, and is used accordingly in the tinctura aromatica of the Edinb. Pharm. but as many other simples surpass it in these qualities, it is seldom employed in the present practice.

[d] Lewis Mat. Med. p. 59. [e] Flor. Lap. a. c.

[f] *Virtus*: alexiteria, stomachica, sudorifera, carminativa. It may be remarked that he says nothing of its *usus*. Mat. Med. p. 205. It was formerly recommended in female diseases. Mensibus lochiisque obstructis, partu difficili, suffocatione uteri; contra venena, & febres malignas.

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ANGELICA SYLVESTRIS. WILD ANGELICA

SYNONYMA. Angelica sylvestris. *Pharm. Edinb. Ger. Emac.* 999. *Raii. Hist.* 437. *Synop.* 208. *Park. Theat.* 940. Angelica sylvestris major. *Bauh. Pin.* 155. A. sylvestris. *Huds. Flor. Ang.* 118. *Withering. Bot. Arr.* 290. *Haller. Stirp. Helv.* n. 806. *Smith Flor. Brit.* 311.

Sp. Ch. A. foliolis æqualibus ovato-lanceolatis serratis.

ROOT perennial, long, thick, tapering, branched, externally brown, internally white. Stalk thick, hollow, jointed, scored, branched, round, smooth, several feet in height. Leaves pinnated, composed of ovate serrated equal pinnæ, with an odd one at the end. Leaf-stalks channelled on the upper surface, standing upon a large membranous sheath inclosing the stem. Flowers white, in large umbels, which are convex, and placed on long stalks arising from the sheaths of the leaf-stalks. General involucrum most commonly wanting, or sometimes composed of small slender leaves. Partial involucrum, consisting of from five to twelve permanent narrow pointed unequal leaves. Corolla of five petals, which are nearly equal, ovate, pointed, bent inwards. Filaments five, spreading, longer than the petals. Antheræ roundish. Germen beneath. Styles two, bent downwards. Stigmata blunt. Fruit furnished with four winged appendages, and on each side three striæ. Seeds two, egg-shaped, plano-convex, with a membranaceous border, convex side, marked with three ridges.

It grows in marshy woods and hedges, flowering in June and July.

As the root of this species of Angelica is still retained in the catalogue of the Materia Medica of the Edinburgh Pharmacopœia, we have judged it expedient to present a figure of the plant; and it is only in compliance with this authority that we have been induced to do so: for the garden Angelica, of which a plate is given in the

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preceding article, not only possesses all the medicinal properties of this species in a superior degree, but may always be more readily procured.

PHELLANDRIUM AQUATICUM. FINE LEAVED WATER-HEMLOCK.

SYNONYMA. Fœniculum aquaticum. *Pharm. Murray. App. Med. i. p.* 267. *Rivin. Pent. tab.* 65. *Ernstingii Phellandrologia. Lange, vom Wasserfenchel.* 1771. Cicutaria palustris tenuifolia. *Bauh. Pin.* 161. *Park.* 933. Cicutaria palustris. *Ger. Emac.* 1063. *Raii. Hist.* 452. *Synop.* 215. *Petiv, t.* 28. *f.* 4. *Hall. n.* 757. P. aquaticum. *Hudson, Flor. Ang.* 122. *Lightf. Flor. Scot.* 163. *Withering. Bot. Arr.* 298. *Smith. Flor. Brit.* 321. *Eng. Bot.* 684.

Pentandria Digynia. *Lin. Gen. Plant.* 353.

Gen. Ch. *Flosculi* disci minores. *Fructus* ovatus lævis coronatus perianthio et pistillo.

Sp. Ch. P. foliorum ramificationibus divaricatis.

ROOT biennial, thick, tapering, jointed, sending off numerous long slender fibres. Stalk thick, hollow, smooth, jointed, branched, scored, usually about two feet in height. Leaves large, triply pinnated, ramifying at right angles, or divaricating; leafits irregularly pinnatifid; leaves under the water filiform. Flowers small, white, in terminal umbels. General involucrum none. Partial involucrum of seven leaves, which are pointed, and about the length of the proper umbel. Calyx five-toothed, permanent. Flowers all fertile,

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and forming a flat uniform surface. Individual florets unequal, smaller at the centre. Petals five, heart-shaped, bent inwards. Filaments five, capillary, longer than the petals. Antheræ roundish. Germen ovate. Styles two, tapering, upright, permanent. Stigmata blunt. Fruit ovate, smooth, divisible into two parts or seeds.

It grows in rivers, ditches, and pools, flowering in June and July.

This plant is generally supposed to possess deleterious qualities. Horses, on eating it, are said to become paralytic; but this effect should not be ascribed to the Phellandrium, but to an insect which resides within its stalks, viz. the *Curculio paraplecticus*.

The seeds of the plant, however, according to Dr. Lange,[a] when taken in large doses, produce a remarkable sensation of weight in the head, accompanied with giddiness, intoxication, &c. and therefore may be deemed capable of proving an active medicine. They are oblong, striated, of a greenish yellow, about the size of those of dill, and manifesting an aromatic acrid taste, approaching nearly to that of the seeds of lovage. Distilled with water they yield an essential oil, of a pale yellow colour, and of a strong penetrating smell. One pound of the seeds affords an ounce of watery extract, but nearly double this quantity of spirituous extract, of which more than three drams consists of resin.[b]

Pliny[c] states the seeds of Phellandrium to be an efficacious medicine in calculous complaints, and disorders of the bladder; and in this opinion he is followed by Dodonæus,[d] who mentions them also as possessing diuretic and emmenagogue powers. But on these authorities little reliance is to be placed; so that the efficacy of this plant rests chiefly on the testimonies of Ernstingius and Lange, by whom various cases of its successful use are published, especially in wounds and inveterate ulcers of different kinds, and

[a] See *Rem. Bruns.* 235.

[b] *Ernstingius, l. c.* [c] *Lib.* 17. *c* 13.

[d] *Pempt.* 591.

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even in cancers;* also in phthisis pulmonalis, asthma, dyspepsia, intermittent fevers, &c.

About two scruples of the seed, two or three times a day, was the ordinary dose given.

Though the disorders here noticed are so multifarious and dissimilar as to afford no satisfactory evidence of the medicinal qualities of these seeds, yet they appear to us well deserving of further investigation, according to the maxim '*Ubi virus ibi virtus.*'

* Boerhaave also speaks highly of its discutient power in all kinds of tumours. *Hist. Plant. Hort. Ludg. Bat.* 1. *p.* 94.

OENANTHE CROCATA. HEMLOCK WATER-DROPWORT.

SYNONYMA. Oenanthe Chærophylli foliis. *Bauh. Pin.* 162. Filipendula cicutæ facie. *Ger. Emac.* 1057. Oenanthe, succo viroso, cicutæ facie *Lobelii. Bauh. Hist. iii.* 193. *Park. Theat.* 894. *Raii. Synop.* 210. *Morris. Sect.* 9. *tab.* 9. *Watson. Phil. Trans. v.* 44. *n.* 480. *tab.* 3. Oenanthe crocata. *Huds. Flor. Ang.* 121. *Withering. Bot. Arr.* 297. *Lightfoot. Flor. Scot.* 162. *Smith. Flor. Brit.* 317. *Flor. Dan.* 846. *Eng. Bot.* 363.

Pentandria Digynia. *Lin. Gen. Plant.* 352.

Gen. Ch. *Flosculi* difformes: in disco sessiles, steriles. *Fructus* calyce et pistillo coronatus.

Sp. Ch. CE. foliis omnibus multifidis obtusis subæqualibus.

ROOT perennial, divided into numerous parts, or oblong tubercles, furnished with long slender fibres. Stalks erect, channelled, round, smooth, branched, of a yellowish red colour, two or three

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feet in height. Leaves simply and doubly pinnated; smaller pinnæ wedge-shaped, smooth, streaked, jagged at the edges: larger pinnæ three-lobed, indented, resembling those of smallage. Flowers in umbels, which are terminal, spreading, and almost globular. General involucrum none. Partial involucrum composed of many small leaves. Calyx permanent, five-toothed. Florets unequal, those at the circumference often sterile. Petals five, heart-shaped, broad, bent inwards, emarginated. Filaments five, slender, tapering, twice the length of the petals. Antheræ oblong, brown. Germen beneath the corolla. Styles two, awl-shaped, reddish, permanent. Stigmata pointed. Fruit oblong, striated, divisible into two parts or seeds, which are convex on one side, and flat on the other.

It grows on the banks of rivers, and in ditches, flowering in June and July.

We have selected this plant, to record it as a powerful poison, rather than as a medicine. Its root, which is not unpleasant to the taste, is, by Dr. Poultney, esteemed to be the most deleterious of all the vegetables which this country produces.

Mr. Howell, surgeon at Haverfordwest, relates, that "eleven "French prisoners had the liberty of walking in and about the "town of Pembroke; three of them, being in the fields a little "before noon, dug up a large quantity of this plant, which they "took to be wild celery, to eat with their bread and butter for "dinner. After washing it, they all three ate or rather tasted of the "roots. As they were entering the town, without any previous "notice of sickness at the stomach, or disorder in the head, one of "them was seized with convulsions. The other two ran home, and "sent a surgeon to him. The surgeon endeavoured first to bleed, "and then to vomit him: but those endeavours were fruitless, and "he died presently. Ignorant of the cause of their comrade's death, "and of their own danger, they gave of these roots to the other "eight prisoners, who all ate some of them with their dinner. "A few minutes afterwards the remaining two, who gathered the "plants, were seized in the same manner as the first; of which one

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" died; the other was bled, and a vomit, with great difficulty " forced down, on account of his jaws being as it were locked to- " gether. This operated, and he recovered, but was sometime " affected with dizziness in his head, though not sick or the least " disordered in his stomach. The other eight being bled and " vomited immediately, were soon well."[a]

At Clonmel, in Ireland, eight boys mistaking this plant for water-parsnep, ate plentifully of its roots: about four or five hours after, the eldest boy became suddenly convulsed, and died; and before the next morning four of the other boys died in a similar manner. Of the other three, one was maniacal several hours, another lost his hair and nails, but the third escaped unhurt.[b]

Stalpaart vander Wiel mentions two cases of the fatal effects of this root; these, however, were attended with great heat in the throat and stomach, sickness, vertigo, and purging. They both died in the course of two or three hours after eating the root.

Allen, in his *Synopsis Medicinæ,* also relates that four children suffered greatly by eating this poison. In these cases great agony was experienced before the convulsions supervened; vomitings likewise came on, which were encouraged by large draughts of oil and warm water, to which their recovery is ascribed.

The late Sir William Watson,[c] who refers to the instances here cited, also says that a Dutchman was poisoned by the *leaves* of the plant boiled in pottage.

It appears from various authorities that most brute animals are not less affected by this poison than man; and Mr. Lightfoot informs us that a spoonful of the juice of this plant, given to a dog, rendered him sick and stupid; but a goat was observed to eat the plant with impunity.

The great virulence of this plant has not however prevented it

[a] Phil. Trans. vol. 44. [b] Ibid. l. c.

[c] Sir William likewise informs us, that Mr. Miller knew a whole family at Battersea, who were poisoned with this plant. And that Mr. Ehret, while drawing the fresh plant, was affected with universal uneasiness and vertigo

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from being taken medicinally. In a letter from Dr. Poultney to Sir William Watson,[d] we are told that a severe and inveterate cutaneous disorder was cured by the juice of the root, though not without exciting the most alarming symptoms. Taken in the dose of a spoonful, in two hours afterwards the head was affected in a very extraordinary manner, followed with violent sickness and vomiting, cold sweats and rigors; but this did not deter the patient from continuing the medicine, in somewhat less doses, till it effected a cure.

[d] Phil. Trans. vol. 62.

CICUTA VIROSA. WATER HEMLOCK.

SYNONYMA. Cicuta Aquatica. *Pharm. Murray. i.* 271. *Bergius.* 212. *Wepfer. Hist. Cicutæ Aquat. p.* 4. Sium alterum olusatri facie. *Lobel. Ic.* 208. *Ger. Emac.* 256. *Ray Hist.* 450. *Synop.* 212. Sium erucæ folio. *Bauh. Pin.* 154. Sium majus angustifolium. *Park. Theat.* 1241. *Conf. Phil. Trans. v.* 44. 242. *tab.* 4. *Hal. n.* 781. *Flor. Dan.* 208. Cicuta virosa. *Hudson. Flor. Ang.* 122. *Lightfoot. Scot.* 164. *With. Bot. Arr.* 299. *Smith. Brit.* 322. *Flor. Dan.* 208. *Eng. Bot.* 479.

Pentandria Digynia. *Lin. Gen. Plant.* 354

Gen. Ch. *Fructus* subovatus, sulcatus.

Sp. Ch. C. umbellis oppositifoliis, petiolis marginatis obtusis.

ROOT perennial, thick, short, hollow, beset at the joints with numerous slender fibres. Stalk thick, round, fistular, striated, smooth, sparingly branched, about four feet in height. Leaves pinnated, leafits usually placed in ternaries, spear-shaped, serrated;

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serratures white at the points. Flowers in large expanding umbels. Partial involucrum composed of several short bristle-shaped leaves. Calyx scarcely discernible. Florets all uniform, fertile, each consisting of five petals, which are ovate, turned inwards, of a greenish white. Filaments five, capillary, longer than the petals. Antheræ simple, purplish. Styles two, at first close, afterwards divaricating. Stigmata simple. Fruit egg-shaped, divisible into two seeds, which are ribbed and convex on one side, and flat on the other.

It grows on the borders of pools and rivers, flowering in July and August.

This plant, which in its recent state has a smell resembling that of smallage, and a taste somewhat like that of parsley, is well known to be a powerful poison. Haller supposes it to be the Κωνειον of Dioscorides; but whether it is the Athenian cicuta, or the plant of which the poisonous potion of the Greeks was composed, cannot possibly be ascertained.

The root has a strong smell, and a warm somewhat acrid taste; by distillation with water it yields a volatile matter, which is of a narcotic quality, and of a very ungrateful odour.

It appears from Bergius, that Water-Hemlock, in its dried state, may be taken in a considerable quantity without producing any bad effect;[a] but of the fatal effects of its root when fresh, numerous instances are recorded: Of two boys and six girls, who ate of this root for that of parsnep, the greater part died in a short time afterwards, those only escaping who were enabled to discharge it by vomiting. The symptoms it produced were intoxication, vertigo,

[a] Recentem cicutam nunquam adhibui; pilulas vero e succo cicutæ expresso & inspissato, cum pulvere foliorum formatas, dedi fœminæ, cancro vero mammarum laboranti, incipiendo a parca dosi, sensim adscendendo ad drachm. 3. quotidie; sed nullum effectum inde sensit, neque bonum, nec malum. Præscripsi famulo cuidam decoct. saturat. herbæ cicutæ siccatæ libr. 4. quod externe adhiberet, sed per errorem intra binas horas totam ebibit lagunculam, absque ullo tamen insequente damno." *Vide l. c.*

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great heat and pain in the stomach, convulsions, and even epilepsy, distortions of the eyes, vomiting or retching, a discharge of blood from the ears, swelling of the abdomen, hiccup, spasms, &c.[b] In the case of a man who had eaten of this poisonous root, we are told the symptoms were vertigo, succeeded by delirium, with constant heat at the stomach, and inextinguishable thirst: these symptoms were of long continuance, and followed by an erysipetalous tumour of the neck.[c]

To cite all the instances related of the deleterious effects of this root would be unnecessary, as those here stated from Wepfer will sufficiently show the train of symptoms which usually follow the taking of this poison. It may be observed however that in most of the cases in which it proved fatal, the patients died in a convulsed or epileptic state, and that whenever the root was rejected by vomiting only a slight degree of stupefaction was for a few hours experienced.[d]

On examination of the bodies of those who perished by eating this root, we are told that the stomach and intestines were discovered to be inflamed, and even in a gangrenous or eroded state, and the blood-vessels of the brain much distended.[e]

To several brutes this plant has likewise proved mortal; but the facts upon this point are somewhat vague and various. Though said to be a fatal poison to cows, it is eaten with impunity by goats and sheep.[f]

[b] *Wepfer. l. c.* [c] See *Eph. Nat. Cur. Cent.* 10. *Obs.* 58. *p.* 355.

[d] See Bresl. Samml. 1722. p. 286. Schwencke gives an account of four boys who had the misfortune to eat this root, three of whom died in convulsions; the other was saved by the timely administration of an emetic.

[e] Vide Wepfer, Schwencke, *Bresl. Samml.* 1722. *p.* 286. *Eph. Nat. Cur. Dec.* 2. *a.* 6. *p.* 321.

[f] ——videre licet pinguescere sæpe cicutis
Barbigeras pecudes, homini quæ est acre venenum.
LUCRET.

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As an internal medicine the Cicuta aquatica is universally superseded by the common hemlock; but externally employed in the way of a poultice, it is said to afford relief in various fixed pains, especially those of the rheumatic and arthritic kind.

BUBON GALBANUM. LOVAGE-LEAVED BUBON.

SYNONYMA. Bubon Galbanum. *Jacquin. Hort. Vindob. vol. 3, p. 21.* Anisum Africanum frutescens, folio anisi, galbaniferum. *Pluken. Alm. p. 31. t. 12.* Ferula Africana galbanifera, folio et facie ligustici. *Herm. Parad. p. 163. t. 163.* Gummi-resina. Galbanum. *Pharm. Lond. & Edin.* Χαλβάνη *Dioscorid.* Γαλβανον *Græc.*

Class Pentandria. *Ord.* Digynia. *L. Gen. Plant. 350.*

Ess. Gen. Ch. Fructus ovatus, striatus, villosus.

Sp. Ch. B. foliolis rhombeis dentatis striatis glabris, umbell. paucis.
L. B. foliolis ovato-cuneiformibus acutis argute serratis, umbellis paucis, seminibus glabris, caule frutescente glauco. *Aiton's Hort. Kewen.*

THE stalk is shrubby, several feet high,[a] slender, purplish, covered with a glaucous-coloured exudation,[b] round, bending, knotted or jointed, towards the bottom woody and naked, but

[a] Jacquin says five feet or more; but this plant is now growing in the King's garden at Kew, four yards high.

[b] This observation applies to the younger plants, or to the upper and softer part of the stalk.

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towards the top sending off leaves and branches; the compound leaves rise from the striated sheathes of the stem, they are subtri-pinnated, the uppermost subbipinnated, and have strong round ribs; the simple leaves are rhomboidal, acute, thickish, of a sea-green colour, veined, subtrilobed, cut, or irregularly serrated, but near the base entire, and some leaves upon the upper branches are somewhat wedge-shaped; the principal umbel terminates the stem, and is large, plano-convex, and composed of numerous radii; the lateral umbels are few, and grow upon slender pendent branches; the leaflets of the general involucrum are about twelve, narrow, lanceolated, membraneous, whitish, and bent downwards; of the partial involucrum they are six, of the same shape and patent. The flowers are all hermaphrodite, fertile, first open at the circumference of the umbel, and followed successively by those towards the centre; the petals are equal, patent, have their points turned inwards, and are of a greenish yellow colour: the stamina are greenish, longer than the petals, and the antheræ are yellow; the germen is round and narrow at the base, the styles are two, short and tapering; the seeds are two, brownish, oval, with smooth uneven surfaces, and marked with three elevated lines. The whole plant is smooth, has an aromatic smell, and an acrid biting taste. It is a native of Africa, about the Cape of Good Hope, and flowers in June and July. It was first introduced into Britain by Mr. John Gerard in 1596,[c] and all the four species described by Linnæus have been since cultivated by Mr. Miller. Through the industry of Mr. Masson, a new species of the Bubon (the lævigatum) has been discovered at the Cape of Good Hope, and is now in the Royal garden at Kew. Notwithstanding we have represented the Bubon Galbanum as the plant yielding the officinal drug; yet it is still a matter of doubt which species of these umbelliferous plants really produces it; and although we have referred to Herman's Ferula Africana, yet we wish to observe, that he thought this

[c] Aiton's Hort. Kew.

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matter still uncertain.[d] It seems highly probable that Galbanum is obtained from different species of the Bubon,[e] though, upon the authority of Linnæus, the London, Edinburgh, and other medical colleges, confine their reference to the species we have figured.

The juice is obtained partly by its spontaneous exudation from the joints of the stem, but more generally and in greater abundance by making an incision in the stalk a few inches above the root, from which it immediately issues, and soon becomes sufficiently concrete to be gathered.

Galbanum is commonly imported into England from Turkey, and from the East-Indies, in large softish ductile pale-coloured masses, which by age acquire a brownish yellow appearance; these are intermixed with distinct white grumes or tears, which are accounted the best part of the mass; but the separate hard tears are externally of a ferruginous colour, and always preferred to the mass itself. Geoffroy distinguishes the former into *Galbanon en larmes*, and the latter into *Galbanon en pains*. Spielman mentions a liquid sort of Galbanum which is brought from Persia, "Prostat etiam interdum Galbanum liquidum ex Persia, consistentia terebinthinæ instructum, cui multæ fæces nigræ commixtæ sunt, tempore ad fundum secedentes, odorem resinæ, nunquam Galbani, habet."[f] Galbanum has a strong unpleasant smell, and a warm bitterish acrid taste; "like the other gummy resins it unites with water by trituration into a

[d] Genuina illa planta, quæ Galbanum officinarum fundit, nostri sæculi Botanicis nondum innotuit. *Ferulaceam* esse veteres docent omnes, quænam vero species sit, non constat. Parad. Bat. l. c.

Hermann is certainly a good authority; he was an intelligent physician, and practised many years in the East-Indies, about the latter end of the last century, and also at the Cape of Good Hope: his judgment therefore, as well as his fidelity, is at least equal to that of Plukenett's, which Linnæus prefers.

[e] Plures extare possunt stirpes, quæ saccum Galbano similem stillant, ut ile variis lachrymis quæ inter se conveniunt & è diversis stirpibus leguntur, nobis compertum est. Herm. l. c.

[f] Mat. Med. p. 560.

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milky liquor, but does not perfectly dissolve, as some have reported, in water, vinegar, or wine. Rectified spirit takes up much more than either of these menstrua, but not the whole: the tincture is of a bright golden colour. A mixture of two parts of rectified spirit, and one of water, dissolves all but the impurities, which are commonly in considerable quantity.[s]"—In distillation with water, the oil separates and rises to the surface, in colour yellowish, in quantity about one-twentieth of the weight of the Galbanum. Newman observes, that the empyreumatic oil is of a blue colour, which changes in the air to a purple.

Galbanum, medicinally considered, may be said to hold a middle rank between Asafœtida and Ammoniacum; but its fetidness is very inconsiderable, especially when compared with the former, it is therefore accounted less antispasmodic, nor is it supposed to affect the bronchial glands so much as to have expectorant powers equal to those of the latter; it has the credit however of being more useful in hysterical disorders, and of promoting and correcting various secretions and uterine evacuations. Externally Galbanum has been applied to expedite the suppuration of inflammatory and indolent tumours, and medically as a warm stimulating plaster. It is an ingredient in the pilulæ e gummi, the emplastrum lithargyri cum gummi, of the London Pharm. and in the empl. ad clavos pedum of the Edin.

[s] Lewis's Mat. Med. by Dr. Aikin, p. 314.

The Galbanum colour was a prevailing fashion with the Romans.

> Reticulumque comis auratum ingentibus implet,
> Cæruleo indutus scutulata, aut galbana rasa; JUVENAL, Sat. 2, l. 96.

And Martial, speaking of an effeminate person, says, Galbanos habet mores. Lib. 1. Epig. 97.—Commentators differ about the colour of Galbana Rasa; we have described the Galbanum flower to be of a greenish yellow.

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CARUM CARUI. COMMON CARAWAY.

SYNONYMA. Caruon. *Pharm. Lond. & Edinb.* Carum seu Careum. *Gerard. Emac. p.* 1034. Caros. *J. Bauh.* iii. *p.* 69. Cuminum pratense, Carui officinarum. *Bauh. Pin. p.* 158. Carum vulgare. *Park. Theat. p.* 910. *Camer. Epit.* 516. *Raii Hist. p.* 446. *Synop. p.* 213. *Morison Umbellifer. p.* 24. *Jacq. Flor. Aust.* 393. *Haller Stirp. Helv. n.* 789. *Withering. Bot. Arrang. p.* 312. *Smith. Brit.* 330. *Jacq. Aust.* 393. Καρον *Dioscorid.* Careum. *Plinii.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 365.

Ess. Gen. Ch. Fructus ovato-oblongus, striatus. *Involucr.* 1-phyllum. *Petala* carinata, inflexo-emarginata.

THE root is biennial, long, thick, white, and has a sharp sweetish taste:* the stalk is round, strong, channelled, branched, and rises to the height of two or three feet: the leaves are long, and subdivide into numerous pinnulæ or segments, which are narrow, pointed, of a deep green colour, and have a sweet taste:† the flowers grow in terminal umbels, generally consisting of ten radii, and furnished with both a general and a partial involucrum, each of which, in the specimen we have figured, consisted of four or five narrow segments: the corolla is composed of five roundish blunt petals, which are white, and curled inwards at the extremities: the five filaments are slender, about the length of the petals, and crowned with small round antheræ: the two styles are short, capillary, and furnished with simple stigmata: the seeds are two, naked, brown, bent, striated, and of an oblong shape.

* Parkinson says that these roots are better eating than parsneps.

† The leaves are said to afford an oil similar to that of the seeds.—Vide Lewis and others.

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This plant produces its flowers in May and June. It is a native of Britain, and grows in meadows and low grounds; but the seeds of the cultivated plant are said to be larger, more oily, and of a more agreeable flavour than those of the wild plant, which are hot and acrid.

Caraway seeds are well known to have a pleasant spicy smell, and a warm aromatic taste, and on this account are used for various œconomical purposes.[a] "They give out the whole of their virtues, by moderate digestion, to rectified spirit. Watery infusions of these seeds are stronger in smell than the spirituous tincture, but weaker in taste: after repeated infusion, in fresh portions of water, they still give a considerable taste to spirit. In distillation, or evaporation, water elevates all the aromatic part of the Caraways: the remaining extract is almost insipid, and thus discovers, that in Caraways there is less, than in most of the other warm seeds of European growth, of a bitterish or ungrateful matter joined to the aromatic. Along with the aqueous fluid there arises in distillation a very considerable quantity, about one ounce from thirty, of essential oil; in taste hotter and more pungent than those obtained from most of our other warm seeds."[b]

The Caraway seeds are esteemed to be carminative, cordial, and stomachic, and recommended in dyspepsia, flatulencies, and other symptoms attending hysterical and hypochondrial disorders: they are also reported to be diuretic, and to promote the secretion of milk. They formerly entered many of the compositions in the Pharmacopœias; but are now less frequently employed. An essential oil, and a distilled spirit, are directed to be prepared from them by the London College.

[a] Semina Carui satis communiter adhibentur ad condiendum panem. Rustici nostrates esitant jusculum e pane seminibus Carui & cerevisia coctum. Distillatores seminibus Carui utuntur in rectificatione spiritus frumenti, ut ille acuatur oleo stellatitio carui, utpote calefaciente, unde spiritus fortior apparet, &c.

[b] Beaume obtained from six pounds of unbruised caraway seeds four ounces of essential oil as colourless as water.

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CONIUM MACULATUM. COMMON HEMLOCK.

SYNONYMA. Cicuta. *Pharm. Lond. & Edinb. Hal. Stirp. Helv.* 766. Cicuta major. *Bauh. Pin.* 160. Cicuta vulgaris major, *Park.* 933. Cicutaria vulgaris. *Clus. Hist.* 2. 200. Cicuta. *Gerard,* 1061. *Raii Hist.* vol. 1. 451. *Synop.* p. 215. *Stoerck. Suppl.* Conium Maculatum. *Scop. Flor. Carn.* p. 207. *Bergius Mat. Med.* 192. *Curtis Flor. Lond. Withering Bot. Arrang.* 277. *Relham Flor. Cant.* 112. *Smith Brit.* 302. Κωνιον *Græcor.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 336.

Ess. Gen. Ch. Involucella dimidiata, subtriphylla. *Fructus* subglobosus, 5-striatus, utrinque crenatus.

Sp. Ch. C. seminibus striatis.

THE root is biennial, tapering, sometimes forked, eight or ten inches long, and about the thickness of a finger: the stalk is five or six feet high, round, shining, beset with brown and purplish specks; towards the top branched and striated; near the bottom about three inches in circumference, and covered with a bluish exudation, appearing like a fine powder: the lower leaves are very large, tripinnated, of a shining green colour, standing upon long, striated, concave footstalks, which proceed from the joints of the stem; the upper and smaller leaves are bipinnated, and placed at the divisions of the branches: the flowers are produced in umbels, which are both universal and partial, and composed of several striated radii. The universal involucrum ‡ consists of five or seven leaves, these are lanceolated, whitish at the margin, and bent

‡ The calyx of umbelliferous plants is termed involucrum, and may be universal, partial, or proper, according as it is placed at the universal umbel, partial umbel, or flower.

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downwards; the partial involucrum is composed of three or four leaves, which are placed on the outer side of the radial stalk; the petals are five, oval, white, and curl inwards at their points; the stamina are five, white, about the length of the corolla, and crowned with whitish antheræ; the styles are two, filiform, inclining outwards, and terminated by round stigmata; the fruit is oval, striated, consisting of two irregularly hemispherical striated brownish seeds. This plant flowers in July, and is commonly found near dunghills and waste grounds.[a] It has a peculiar faint fetid smell, and a slight aromatic herbaceous, and somewhat nauseous taste.[b]

The common resemblance of most of the umbelliferous plants leads us to suspect, that they were very imperfectly distinguished by the ancients; for though the botanical description of the Κωνειον, given by Dioscorides, applies in great measure to this plant,[c] yet it must be considered, that his description is without discrimination, and is, with a few exceptions, equally applicable to all the genera of plants composing the natural order of *Umbelliferæ:* so that the accounts given of Cicuta by ancient writers, should be admitted with great caution.[d] Whether this species of hemlock was the poison usually administered at the Athenian executions, and which

[a] "The Hemlock is obviously distinguished from our other umbelliferous plants by its *large* and *spotted stalk*, by the dark and *shining green colour of its bottom leaves*, and particularly by their *disagreeable smell* when bruised, and which, according to Stöerck, resembles that of mice." *Curt. Flor. Lond.* The Chærophyllum bulbosum has a spotted stem, but its swelled joints, and rough seeds, distinguish it from the hemlock.

[b] Bergius. M. M. 194. Stoerck says, that the milky juice of the root is so extremely acrid and deleterious that a small drop or two of it being applied to his tongue produced great pain and swelling of that organ, and for some time deprived him of the power of speech.——In answer to this see note ([s]).

[c] Haller refers it to the Cicuta virosa. [d] The word Cicuta, with the ancients, seemed not indicative of any particular species of plant, but of poisonous vegetables in general. Vide Plinii Hist. Nat. L. 14. c. 5. L. 25. c. 13.

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deprived Athens of those great characters, Socrates and Phocion, we are at a loss to determine;[e] but that it is a deleterious poison there cannot be a doubt,[f] though some circumstances render it probable that it is less powerfully so than is generally imagined.[g]

[e] For further information on this subject, consult Steger Diss. de Cicuta Atheniensium. Ehrhart Diss. de Cicuta. Joannis Viventii de Cicuta comment.

[f] Of the most decisive instances of its fatal effects, which have occurred in this country, is that related by the late Dr. Watson in the Phil. Transact. in which it is fully ascertained by him, that two Dutch soldiers, at Waltham Abby, were killed in a very short time by eating this plant. Other proofs of this sort are given by Heins, (Pharm. rat. p. 370) which happened to some boys at Dresden. Saml. fur Geschichte von Ober. Sachs. III. p. 221. Scaliger, Subtil. Exerc. 152. Amatus Act. Cur. 98. Cent. V. See also the cases mentioned by Wolf in Comment. lit. Nor. anno 1740 and 1749.—Wepfer. Cicut. p. 71. 312. Brassavola Examen. omn. simp. We may also notice the following from Theophrastus, (L. IX. c. 17.) Thrasyas Mantineensis remedium a se inventum fuisse gloriabatur, quod absque dolore vitam abrumperet, ex Cicuta & Papaveris succo mistum, &c. vide Hal. Stirp. Helv. p. 338.—to which work we are obliged for many of the facts just recited. Although sheep and some other animals eat this plant with impunity, yet to many it is strongly poisonous. Three spoonfuls of the juice killed a cat in less than a quarter of an hour. Rozier, Tableau, tom i. 1773. Upon opening those animals to which it proved fatal, inflammation of the stomach and intestines was discovered. Harder apiar. Obs. 24 & 25. Wepfer cicut. p. 334. And we may here remark that vinegar has been found the most useful in obviating the effects of this poison; and that by macerating or boiling this plant in vinegar, it becomes totally inert. Lindestolpe de venenis.

[g] Respecting the root of Hemlock, we have the following instances, shewing unequivocally that it does not possess any noxious power whatever. Ray relates, (Phil. Trans. XIX. vol. p. 634.) that the skilful herbalist, Mr. Petiver, ate half an ounce of the root of Hemlock, and that Mr. Henly, in the presence of Mr. Petiver, swallowed three or four ounces, without experiencing any remarkable effect; and these facts seem confirmed by the later experiments of Mr. Alcorne and Mr. Timothy Lane, neither of whom perceived any sensible effect on eating this root. Mr. Curtis says, Mr. Alcorne "assures me, that he has tried this in every season of the year, and in most parts of our island, without finding any material difference: and Mr. T. Lane informs me, that he also, with great caution, made some experiments of the like kind, and in a short time found he could eat a considerable part of a root, without any inconvenience; after this he had some

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The symptoms produced by Hemlock, when taken in immoderate doses, are related by various authors, the principal of which have been collected by Haller and others, and stated in the following words: " Intus sumpta facit anxietates, cardialgias, vomitus, appetitum prostratum diuturnum, convulsiones, cæcitatem, sopores," (l. c.) " vertiginem, dementiam, mortemque ipsam." Murray App. Med. vol. 1. p. 215.—Cicuta seems to have been, both by the Greek and Arabian physicians, very generally employed as an external remedy for tumours, ulcers, and cutaneous eruptions; it was also thought to have the peculiar power " frangere stimulum venereum;"[h] and this circumstance is the more remarkable, as Stöerck, Bergius, and others, recommend its internal use for complaints of a contrary nature, and adduce proofs of its aphrodisiacal powers.[i]

Baron Stöerck was undoubtedly the first physician, who brought Hemlock into repute as a medicine of extraordinary efficacy, by his

large roots boiled, and found them as agreeable eating at dinner with meat as carrots, which they in taste somewhat resembled; and as far as his experience, joined with that of others, informed him, the roots might be cultivated in gardens, and either eaten raw like celery, or boiled as parseneps or carrots." (Flor. Lond.) And Murray observes, Non tamen tantopere esse Conium reformidandum, ut quidam existimant, patet inde, quod etiam infantibus tenellis impune exhibitum, nec fœtum affecerit sub matris graviditate datum, nec gravidam matrem, nec detrimentum attulerit largior et per protractius tempus, ad drachmas sex extracti usque supraque intra nychthemerum, usus. Stöerck, vide Murray, Ap. Med. vol. 1. p. 216.—Quin & exstant exempla vetustiora, ingestam herbam vel succum majori adeo quantitate subinde tam homines quam bruta impune tulisse. Sic Plinius caulem viridem comedi, Sextus Empericus feminam producit, quæ drachmam unam succi absque noxa cepit. Murray, l. c.

[h] Aretæus de Morb. Acut. L. 2. c. 11. Et incrementa mammarum & testium cohibere, *Anaxilaus & Dioscorides.*

[i] Impotentiam virilem sub usu Conii curatam observavi, in viro quodam plusquam quadrigenario, qui omnem erectionem penis perdiderat, postinde tamen plures liberos procreavit. Bergius Mat. Med. p. 195.—Dr. Cullen, however, never discovered its effects in this way.

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publication in 1760; and his claim to this distinction is the stronger, as his facts only have since been able to support its reputation to any very considerable extent; nay it never succeeded so well as when under his own direction, or confined to the neighbourhood in which he resided,[k] and to the practice of those physicians with whom he lived in habits of intimacy and friendship.* To enumerate all the diseases in which he sets forth the powerful efficacy of Cicuta, in four successive books on the subject, would be to give a catalogue of most of the chronic diseases with which human nature is afflicted. And Bergius, though he experienced no advantage by employing it in true cancerous affections, still recommends its use in "Ulcera sordida & siphilitica, Scabies, Morbi cutis, Gonorrhœa, Leucorhœa, Phthisis, Impotentia virilis, Rheumatismus chronicus, Scrophula;" and he considers its *Virtus* to be "narcotica, resolvens, suppurationem promovens, diuretica." To estimate with precision the medicinal utility of Hemlock is no very easy task. Had Dr. Stöerck's publications upon this subject contained but few and less extraordinary proofs of its good effects in certain obstinate and painful diseases, the virtues of Cicuta might have been held in greater estimation than they actually are:[l] while those authors, who have as generally condemned this medicine as uniformly useless or dangerous, seem to have done it equal

[k] The general inefficacy of Hemlock experienced in this country, induced physicians at first to suppose that this plant, in the environs of Vienna and Berlin, differed widely from ours, and this being stated to Dr. Stöerck, he sent a quantity of the extract, prepared by himself, to London, but this was found to be equally unsuccessful, and to differ in no respect from the English extract.

* Collin, Locher, Quarin, Leber, &c.

[l] That it should be of some estimation in many of the diseases, in which it is recommended by Stöerck, appears from the numerous authorities cited by Murray, who concludes with these words: "Et sic quidem in multis pertinacissimis morbis liquandi spissa, obstructa reserandi et sanguinem depurandi, efficacia auxilio fuit." l. c.

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injustice.[m] Although we have not in this country any direct facts, like those mentioned by Stöerck, proving that inveterate scirrhuses, cancers, ulcers, and many other diseases hitherto deemed irremediable, were completely cured by the Cicuta; we have, however, the testimonies of several eminent physicians, shewing that some complaints, which had resisted other powerful medicines, yielded to Hemlock;[n] and that even some disorders, which, if not really cancerous, were at least suspected to be of that tendency, were greatly benefited by this remedy. In chronic rheumatisms, some glandular swellings, and in various fixed and periodical pains, the cicuta is now very generally employed; and from daily experience, it appears in such cases to be a very efficacious remedy. It has also been found of singular use in the chincough.[o] We cannot therefore but consider this plant an important acquisition to the Materia Medica. Externally the leaves of hemlock have been variously applied with advantage to ulcers, indurated tumours, and gangrenes.

Much has been said respecting the variable nature of this plant, the time of collecting it, the part which ought to be preferred, and the best manner of preparing it for medical use; but as these circumstances seem only to produce a mere variation in the strength of the medicine, we conceive such pharmaceutical inquiries to be

[m] Vide Andree's Observations on Stöerck's Pamphlet, *anno* 1761. Lange Diss. dubia Cicutæ vexata. *anno* 1764. De Haen Epist. de cicuta, *anno* 1765. Bierken (*Tal om Kreaftskador*) who, with Bergius, says, that in all cancers it does mischief.

[n] Among those we may mention the late Drs. Fothergill and Rutty. Vide Med. Obs. & Inquir. vol. 3.—also in the 5th vol. the former gives an account of painful affections of the face, which he attributes to cancerous acrimony, removed by the use of cicuta.—Dr. Cullen says, "I have found it in several cases (of cancer) to relieve the pains and mend the quality of the matter proceeding from the sore, and even to make a considerable approach towards healing it." Mat. Med. vol. 2. 266. Several others instance its good effects in glandular diseases, and Mr. Hunter commends its use in syphilis. [o] Dr. Butter on the Chincough.

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of very little importance, requiring only a proportionate adjustment of the dose, which, under the direction of a skilful practitioner, will always be regulated by its effects only, beginning with a few grains of the extract or powder, and increasing it daily[p] till a slight vertigo or other symptoms manifest the sufficiency of the dose: and unless this method has been pursued, the medicine cannot be said to have had an efficient trial. "An extract from the seeds is said to produce giddiness sooner than that from the leaves. Hence, while both the London and Edinburgh Colleges have given a place to the succus spissatus cicutæ, into the pharmacopœia of the latter an extractum seminum cicutæ is also introduced."[q]

[p] This should also be attended to on recommencing with a fresh parcel of the medicine, as it may differ very materially from the former preparation used; of this Dr. Cullen gives a remarkable instance, strongly evincing the necessity of such a precaution, l. c. [q] Duncan's Edin. New Dis.

The powder of the dried leaves of Hemlock seems to act with more certainty, and is more to be depended upon than the extract; great caution however is required in drying and preserving these leaves. Dr. Withering recommends the following method, which appears to us extremely proper: "Let the leaves be gathered about the end of June, when the plant is in flower. Pick off the little leaves, and throw away the leaf stalks. Dry these selected little leaves in a hot sun, or in a tin dripping pan or pewter dish before the fire. Preserve them in bags made of strong brown paper, or powder them and keep the powder in glass vials, in a drawer or something that will exclude the light, for the light soon dissipates the beautiful green colour, and with its colour the medicine loses its efficacy. From 15 to 25 grains of this powder may be taken twice or thrice a day. I have found it particularly useful in chronic rheumatisms, and also in many of those diseases which are usually supposed to arise from acrimony. The nature of this book does not allow minute details of the virtues of plants, but I can assure the medical practitioner, that this is well worth his attention." Bot. Arr. 2d Ed. p. 280.

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FERULA ASSAFŒTIDA. ASAFŒTIDA GIGANTIC FENNEL.

SYNONYMA. Planta umbellifera, tripedalis, erecta, ramosa, glauca, flore luteo, *Hope, Phil. Trans. vol. 75, p. 36.* Asafœtida umbellifera Levestico affinis, foliis instar Pœoniæ ramosis; caule pleno maximo; semine foliaceo nudo solitario; Brancæ ursinæ‡ vel pastinacæ simili; radice asam fœtidam fundente. *Kaempfer Amœnit. Exot. p. 535.* Gummi-resina, Asafœtida, *Pharm. Lond. & Edin.* Hingiseh *Persarum.* Altiht *Arabum,* et a quibusdam creditur σιλφιον vel οπος σιλφιου *Dioscor. Theophrast. Hippoc. &c.* Laser et Laserpitium, *Latinorum.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 343.

Ess. Gen. Ch. Fructus ovalis, compresso-planus, striis utrinque 3.

Spec. Ch. F. Foliis alternatim sinuatis obtusis.

LINNÆUS has given the specific character according to Kaempfer's representation of the Asafœtida plant, which differs in many respects from the figure here annexed, which is taken from that communicated to the Royal Society by the late Dr. Hope, and published in the 75th volume of the Philosophical Transactions: and this difference being so considerable as to indicate more than a mere botanical variety, Sir Joseph Banks thinks it probable that Asafœtida may be produced from different species of the ferula. Dr. Hope was undoubtedly the first who cultivated the Asafœtida plant in Britain, or perhaps in Europe, and his accurate description of it, as it grew in the botanical garden near Edinburgh, in the

‡ Branca ursina is the Heracleum Sphondylium of Linnæus.

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year 1784, is inserted below.* Though Asafœtida was formerly in

* PLANTA umbellifera, tripedalis, erecta, ramosa, glauca, flore luteo.

Radix perennis.

Folia radicalia sex, procumbentia, trilobo-ovata, multoties pinnatim divisa; foliolis incisis, subacutis, subdecurrentibus; petiolo communi superne plano, linea elevata longitudinaliter per medium decurrente.

Caulis bipedalis, erectus, teretiusculus, annuus, leviter striatus, glaber, nudus præter unam circa medium foliorum imperfectorum conjugationem; petiolo membranaceo concavo.

Rami nudi, patuli; quorum tres inferi, alterni, sustinentur singuli folii imperfecti petiolo membranaceo concavo.

Quatuor intermedii verticillati sunt. Supremi ex apice caulis octo, quorum interni erecti.

Omnes hi rami summitate sustinent umbellam compositam sessilem terminalem, et præterea 3—6 ramulos externe positos, umbellas compositas ferentes.

Hoc modo, rami inferiores sustinent 5, raro 6 ramulos; intermedii 3 vel 4; superiores 1 et 2.

CAL. *Umbella universalis* radiis 20—30 constat.

——— *partialis* flosculis subsessilibus 10—20.

Umbella composita sessilis convexo-plana.

——— ——— pedunculata hæmispherica.

Involucrum universale nullum.

——— *partiale* nullum.

Perianthium proprium vix notabile.

COR. *universalis* uniformis.

Flosculi umbellæ sessilis fertiles.

——— ——— pedunculatæ plerumque abortiunt.

propria petalis quinque æqualibus, planis, ovatis: primo patulis, dein reflexis, apice ascendente.

STAM. *Filamenta* 5, subulata, corolla longiora, incurvata. *Antheræ* subrotundæ.

PIST. *Germen* turbinatum, inferum.

Styli duo, reflexi.

Stigmata apice incrassata.

PER. nullum: fructus oblongus, plano-compressus, utrinque 3 lineis elevatis notatus est.

SEM. duo, oblonga, magna, utrinque plana, 3 lineis elevatis notata.

Planta odorem alliaceum diffundit. Folia, rami, pedunculi, radix, truncus, secti succum fundunt lacteum, sapore et odore Asæ fœtidæ.

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great estimation both as a medicine and a sauce, yet we had no particular account of the plant till Kaempfer returned from his travels in Asia, and published his Amœnitates Exoticæ in the beginning of the present century. As he saw the plant growing, and describes it from his own observation, we have collected the following general description from the history he has given:

It is a native of Persia, the root is perennial, tapering, ponderous, and increases to the size of a man's arm or leg, covered with a blackish coloured bark, and near the top beset with many strong rigid fibres; the internal substance is white, fleshy, and abounds with a thick milky juice, yielding an excessively strong fetid alliaceous smell; the stalk is simple, erect, straight, round, smooth, striated, herbaceous, about six or seven inches in circumference at the base, and rises luxuriantly to the height of two or three yards, or higher;* radical leaves six or seven, near two feet long, bipinnated, pinnulæ alternate, smooth, variously sinuated, lobed, and sometimes lance-shaped, of a deep green colour, and fetid smell; the umbels are compound, plano-convex, terminal, and consist of many radii: the seeds are oval, flat, foliaceous, of a reddish brown colour, rough, marked with three longitudinal lines, have a porraceous smell, and a sharp bitter taste: the petals Kaempfer did not see, but supposes them in number five, minute, and white.

This plant is said to vary much according to the situation and soil in which it grows, not only in the shape of the leaves, but in the peculiar nauseous quality of the juice which impregnates them; this becomes so far altered that they are sometimes eaten by the goats.

Asafœtida is the concrete juice of the root of this plant, which is procured in the following manner on the mountains in the provinces of Chorasaan and Laar in Persia. At that season of the year when the leaves begin to decay, the oldest plants are selected

* *Caulis*, in orgyjæ, sesquiorgyjæ, vel majorem longitudinem luxuriosè exsurgens, crassitie in imo quanta manûs complexum superat.

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for [b] this purpose. First the firm earth which encompasses the root, is rendered light by digging, and part of it cleared away, so as to leave a portion of the upper part of the root above the ground; the leaves and stalk are then twisted off and used with other vegetables for a covering to screen it from the sun, and upon this covering a stone is placed to prevent the winds from blowing it down; in this state the root is left for forty days, after which the covering is removed, and the top of the root cut off transversely; it is then screened again from the sun for forty-eight hours, which is thought a sufficient time for the juice to exude upon the wounded surface of the root, when the juice is scraped off by a proper instrument, and exposed to the sun to harden: this being done, a second transverse section of the root is made, but no thicker than is necessary to remove the remaining superficial concretions which would otherwise obstruct the farther effusion of fresh juice; the screening is then again employed for forty-eight hours, and the juice obtained a second time, as before mentioned. In this way the Asafœtida is eight times repeatedly collected from each root; observing, however, that after every third section, the root is always suffered to remain unmolested for eight or ten days, in order that it may recover a sufficient stock of juice. Thus, to exhaust one root of its juice, computing from the first time of collecting it to the last, a period of nearly six weeks is required; when the root is abandoned, and soon perishes.

The whole of this business is conducted by the peasants who live in the neighbourhood of the mountains where the drug is procured; and as they collect the juice from a number of roots at the same time, and expose it in one common place to harden, the sun soon gives it that consistence and appearance in which it is imported into Europe.

Asafœtida has a bitter, acrid, pungent taste, and is well known by its peculiar nauseous fetid smell, the strength of which is the surest test of its goodness; this odour is extremely volatile, and of

[b] Radix quadriennio minor parum lactescit & nunquam secatur.

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course the drug loses much of its efficacy by keeping. According to Kaempfer's account, the juice is infinitely more odorate when recent than when in the state brought to us: Affirmare ausim, unam drachmam recens effusam, majorem spargere fœtorem, quàm centum libras vetustioris quem siccum venundant aromatarii nostrates. "We have this drug in large irregular masses of a heterogeneous appearance, composed of various shining little lumps or grains, which are partly whitish, partly of a brownish or reddish, and partly of a violet hue. Those masses are accounted the best which are clear, of a pale reddish colour, and variegated with a great number of fine white tears. Asafœtida is composed of a gummy and a resinous substance, the first in largest quantity. Its smell and taste reside in the resin, which is readily dissolved and extracted by pure spirit, and, in a great part, along with the gummy matter, by water.[c]"

Asafœtida is a medicine in very general use, and is certainly a more efficacious remedy than any of the other fetid gums: it is most commonly employed in hysteria, hypochondriasis, some symptoms of dyspepsia, flatulent colics, and in most of those diseases termed nervous: but its chief use is derived from its antispasmodic effects; and it is thought to be the most powerful remedy we possess for those peculiar convulsive and spasmodic affections which often recur in the first of these diseases, both taken into the stomach and in the way of enema. It is also recommended as an emmenagogue, anthelminthic, expectorant,[d] antiasthmatic, and anodyne. Where we wish it to act immediately as an antispasmodic, it should be used in a fluid form, as that of tincture.

In the London Pharmacopœia, a spirituous tincture of it is directed, and it is also an ingredient in the Pilulæ e Gummi. In the Edinburgh Pharmacopœia, Asafœtida is ordered in the Tinctura fuliginis, in the pilulæ gummosæ, and in the form of tincture with the Spt. Sal. ammon. vinos.

[c] Lewis's Mat. Med.

[d] Dr. Cullen prefers it to the Gum Ammon. as an expectorant. Asafœtida should therefore have a double advantage in spasmodic asthmas.

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IMPERATORIA OSTRUTHIUM. COMMON MASTERWORT.

SYNONYMA. Imperatoria. *Pharm. Edinb. J. Bauh.* iii. 137. *Gerard Emac.* 1001. *Haller. Stirp. Helv.* No. 805. Imperatoria major. *Bauh. Pin.* 156. Imperatoria sive Astrantia vulgaris. *Park. Theat.* 942. Common Masterwort, *by some erroneously* Pellitory of Spain. *Raii Hist.* 436. Magistrantia. *Camer. Epit.* 592. Imperatoria Ostruthium. *Withering. Bot. Arr. Lightfoot. Flor. Scot. Smith. Brit.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 356.

Ess. Ch. Fructus subrotundus, compressus, medio gibbus, margine cinctus. *Petala* inflexo-marginata.

Imperatoria *Ostruthium.* L. Sp. Pl. 371.

THIS is the only Imperatoria described by Linnæus. The root is perennial, large, fleshy, succulent, round, tapering, rough, articulated, externally brown, internally whitish, creeping, and sends off many lateral fibres: the stalk is thick, striated, round, jointed, and rises about two feet in height: the leaves are compound, and proceed alternately from long footstalks, which supply the stalk with a sheathy covering at each articulation; the simple leaves are ovato-elliptical, pointed, irregularly serrated, and placed in treble ternaries, and the terminal leaf is commonly cut into three lobes: the general umbels are large, flat, and terminal; the partial umbel convex and unequal; there is no general involucrum; the partial involucrum consists of one or two slender leaves, nearly of the length of the radii; each flower is composed of five oval petals, which are of equal size, white, notched, and having their points bent inwards; the five filaments are tapering, white, erect, and longer than the corolla; the antheræ are double; the germen

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is roundish, striated, truncated, above white, beneath greenish: the two styles are tapering, spreading, and a little shorter than the stamina; the stigmata are simple and obtuse. The flowers appear in May and July.

Masterwort may be considered as a native of Scotland, Mr. Lightfoot having found it growing in several places on the banks of the Clyde. It is frequently cultivated in our gardens; but the root, which is the part directed for medical use, is greatly inferior to that produced in the South of Europe, especially in mountainous situations: hence the shops are generally supplied with it from the Alps and Pyrenees.

This root has a fragrant smell, and a bitterish pungent taste, leaving a glowing warmth in the mouth for some time after it has been chewed. Its virtues are extracted both by watery and spirituous menstrua, but more completely by the latter.

This plant, as its name [a] imports, was formerly thought to be of singular efficacy, and was preferred to most of the other aromatics, for its alexipharmic and sudorific powers. In some diseases [b] it was employed with so much success as to be distinguished by the name of "divinum remedium." [c] At present, however, physicians consider this root merely as an aromatic, and it is of course superseded by many of that class of a superior character. Half a dram of the root in substance, and one dram of it in infusion, is the dose directed.

[a] "Imperatoria ob raras & præstantes facultates nominata fuit." Vide Bauh. Pin. s. c.

[b] The diseases in which it has been chiefly recommended, are Hysteria, Hydrops, Colica, Paralysis, Vermes, Febres intermittentes. It has been also used as a sialagogue.

[c] C. Hoffman. Officin. L. 2. c. 116.

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APIUM PETROSELINUM. COMMON PARSLEY.

SYNONYMA. Petroselinum. *Pharm. Lond. & Edinb.* Apium hortense vulgo Petroselinum. *Bauh. Pin. p.* 153. Petroselinum vulgare. *Park. Theat. p.* 922. Apium hortense. *Gerard. Emac. p.* 1013. *Raii. Hist. p.* 1448.

α Apium sativum. *Riv. pent.* 88. Common Parsley.
β Apium crispum. *Riv. pent.* 90. Curled Parsley.
γ Apium radice esculenta. *Hort. Ups.* 67. Large rooted Parsley. *Aiton's Hort. Kew.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 367.

Ess. Gen. Ch. Fructus ovatus, striatus. *Involucrum* 1-phyllum. *Petala* æqualia.

Sp. Ch. A. foliolis caulinis linearibus, involucellis minutis.

THE root is biennial, long, white, and beset with fibres: the stem is upright, round, scored, branched, jointed, and usually rises two feet in height: the radical leaves are with footstalks, compound, pinnated in ternaries: the leafits are smooth, veined, divided into three lobes, and notched at the margin: the leaves of the stalk proceed from the vaginal sheaths at the joints, and have the leafits cut into narrow linear entire segments: the flowers are small, of a yellow colour, and terminate the stem and branches in umbels composed of general and partial radii; the former are about ten in number, and the latter twenty in each umbel; it seldom has a general involucrum, but the partial involucrum consists of six or eight leafits, unequal, pointed, spreading, and shorter than the umbel: the corolla consists of five oval petals, which have their points inflected: the filaments are five, spreading, slender, twice the length of the corolla, and crowned with roundish

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antheræ: the germen is oval, striated, and supports two short reflected styles, terminated with obtuse stigmata: the seeds are of a dark green colour, oblong, angular, striated, flat on one side, and convex on the other. It is a native of Sardinia, and flowers in June and July.

All the varieties of Parsley have been long very generally cultivated in England,[a] and its frequent use for culinary purposes renders it more familiar than most of the plants which our kitchen gardens produce. Both the roots and seeds of Parsley are directed by the London College for medicinal use; the former have a sweetish taste, accompanied with a slight warmth or flavour, somewhat resembling that of a carrot: the latter are in taste warmer, and more aromatic than any other part of the plant, and also manifest considerable bitterness. In distillation, three pounds yielded above an ounce of essential oil, a great part of which sunk in the fluid. They give out little of their qualities by infusion in watery menstrua, but readily impart all their virtue to rectified spirit. The roots, by distillation in water, were found to yield a very inconsiderable portion of essential oil, not above two or three drams from as many hundred pounds of the root.[b] These roots are said to be aperient and diuretic, and have been employed in apozems, to relieve nephritic pains, and obstructions of urine.[c] In this way they have been prescribed by Dr. Cullen without producing any diuretic effect, and this he thinks may in some measure be attributed to the loss of their active matter, which they sustain in boiling.[d] The seeds, like those of many other umbelliferous plants, possess a share of aromatic and carminative power; but as this is inconsiderable they are now seldom employed.‡ The

[a] Cultivated in 1551. *Turn. Herb. part.* 1. *sign.* D. iiii. Vide *Aiton's Hort. Kew.* [b] Lewis, *Mat. Med. p.* 499. [c] See Hoffman and others. [d] *Mat. Med. p.* 159.

‡ Externally they have been advantageously used for destroying cutaneous insects in children. Vide Con. Mich. Valentini *Act. Nat. Cur. vol. i. p.* 285. and Rosenstein *Barns. junkd. Ed.* 3. *p.* 533.

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bruised leaves have been successfully used as a decutient poultice to various kinds of tumours.[e] Although Parsley is so commonly used at table, it is remarkable that facts have been adduced to prove that in some constitutions it occasions epilepsy, or at least aggravates the epileptic fits in those who are subject to this disease.[f] It has been supposed also to produce inflammation in the eyes.[g]

[e] We are told by Lange, *(Misc. verit. med. p. 26)* that this application has succeeded in scirrhous tumours where Cicuta and Mercury had failed.

[f] Hannemannus, in *Eph. Nat. Cur. Dec. 3. A. 3. p. 78.* And Marriotte in *Journ. de Med. t. 23. p. 545.*

[g] See *Boyle's Works, t 1. p. 503.* Alston's *Lect. on M. M. vol. i. p. 381.* And cited by Murray.

ERYNGIUM* MARITIMUM. SEA ERYNGO, or HOLLY.

SYNONYMA. Eryngium. *Pharm. Lond. Bauh. Pin. p. 386.* Eryngium marinum. *Gerard. Emac. p. 1162. Park. Theat. p. 986. J. Bauh. Hist. vol. iii. p. 86. Raii Hist. p. 384. Synop. p. 222.* Eryngium maritimum. *Bauh. Pinax. p. 386. Hudson. Flor. Ang. Smith Brit. Withering. Bot. Arrang. p. 264. Flor. Dan. tab. 875.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant. 324.*

* Græci Philosophi Eryngium, quasi ἐρυγμὸς, id est ructum, dictum putant, quòd capræ quæ morsu surculum Eryngii præciderint, vel deglutiverint, cunctum gregem pone sequentem quasi stupore attonitum sistunt, donec Eryngium ructu rejecerint. *C. Bauh. l. c.*

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Ess. Gen. Ch. *Flores* capitati. *Receptaculum* paleaceum.

Sp. Ch. E. foliis radicalibus subrotundis plicatis spinosis, capitulis pedunculatis, paleis tricuspidatis.

THE root is perennial, long, round, tough, externally of a brown colour, internally whitish: the stalk is thick, fleshy, round, striated, white, branched, and rises from one to two feet in height: the leaves, which grow from the root, are roundish, plaited, trifid, firm, spinous like those of the holly, marked with white reticulated veins, and of a very pale bluish green colour; those proceeding from the stalk are sessile, and surround the branches: the flowers are small, of a blue colour, and terminate the branches in round heads: the common receptacle is conical, and supplied with *paleæ*, which separate the florets: the involucrum of the receptacle is composed of many pointed leaves, which are longer than the florets: the calyx consists of five erect sharp leaves, placed above the germen: the corolla is composed of five oblong petals, with their points turned inwards: the filaments are five, slender, upright, longer than the corolla, and supplied with oblong antheræ: the two styles are filiform, and furnished with simple stigmata: the germen is beset with short hairs, and stands beneath the corolla: the fruit is two oblong seeds, connected together. It grows abundantly on the sea coasts, and flowers from July till October.

In the Materia Medica of Linnæus, and in almost all the foreign pharmacopœias, the Eryngium campestre is considered to be the officinal plant: Geoffroy, however, has observed that the E. maritimum is by many thought to be a more powerful medicine, and Simon Paulli[a] gives it the preference; but Boerhaave[b] attributes the same virtues to both, and indeed it seems of little importance which is preferred. Eryngo is supposed to be the ἠρύγγιον of Dioscorides,[c]

[a] *Quadrip. p.* 324. [b] *Hist. pl. T. i. p.* 194.

[c] *Lib.* 3. *c.* 24. He recommends it ad menses obstructos, tormina, inflationes hepaticos, venena, venenatos morsus, episthotonicos, & comitiales.

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who with other ancient writers speak highly of its medicinal efficacy. The root, which is the part directed for medicinal use, has no peculiar smell, but to the taste it manifests a grateful sweetness, and on being chewed for some time it discovers a light aromatic warmth or pungency. By Boerhaave this was esteemed the principal of the aperient roots, and he usually prescribed it as a diuretic and antiscorbutic:[d] it has likewise been celebrated for its aphrodisiac powers.[e] But this and the other effects ascribed to Eyrngo seem now to obtain very little credit.

[d] Vide, *l. c.*

[e] "Non male tum Graiis florens Eryngus in hortis
"Quæritur: hunc gremio portet si nupta virentem
"Nunquam inconcessos conjux meditabitur ignes.
Rapinus in Boer. Hist.

The root is frequently candied, or made into a sweet meat.
The young flowering shoots boiled, have the flavour of asparagus. *Lin. Flor. Suec.*

PASTINACA OPOPANAX. OPOPANAX, or ROUGH PARSNEP.

Opopanax, *gummi-resina. Pharm. Lond.*

SYNONYMA. Panax costinum. *Bauh. Pin.* p. 156. Panax Heracleum. *Morris Hist. t. iii. p.* 315. *Boccone, Journ. des Scav.* 1676. *p.* 28. *Gerard Emac. p.* 1003. *Rati Hist. p.* 410. Heracleum alterum, sive peregrinum Dodonæi. *Park. Theat. p.* 948. Pastinaca sylvestris altissima. *Tourn. Inst. p.* 319. P. Opopanax. *Gouan, Illustr.* 19. *t.* 13, 14.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 362.

Ess. Gen. Ch. Fructus ellipticus, compresso-planus. *Petala* involuta, integra.

Sp. Ch. P. foliis pinnatis: foliolis basi antica excisis. *Syst. Veg.*

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THE root is perennial, thick, fleshy, tapering like the garden parsnep: the stalk is strong, branched, rough towards the bottom, and rises seven or eight feet in height: the leaves are pinnated, consisting of several pairs of pinnæ, which are oblong, serrated, veined, and towards the base appear unformed on the upper side: the flowers are small, of a yellowish colour, and terminate the stem and branches in flat umbels: the general and partial umbels are composed of many radii: the general and partial involucra are commonly both wanting: all the florets are fertile, and have an uniform appearance: the petals are five, lance-shaped, and curled inwards: the five filaments are spreading, curved, longer than the petals, and furnished with roundish antheræ: the germen is placed below the corolla, supporting two reflexed styles, which are supplied with blunt stigmata: the fruit is elliptical, compressed, divided into two parts, containing two flat seeds, encompassed with a narrow border. It is a native of the South of Europe, and flowers in June and July.

This species of Parsnep was cultivated in 1731 by Mr. P. Miller, who observes that its "roots are large, sweet, and accounted very nourishing," therefore recommended for cultivation in kitchen-gardens.[a] It bears the cold of our climate very well, and commonly maturates its seeds, and its juice here manifests some of those qualities which are discovered in the officinal opopanax;[b] but it is only in the warm regions of the East, and where this plant is a native, that its juice concretes into this gummy resinous drug. Opopanax is obtained by means of incisions made at the bottom of the stalk of the plant, from whence the juice gradually exudes,[c] and by undergoing spontaneous concretion, assumes the appearance under which we have it imported from Turkey and the East-Indies,

[a] See his *Dict.*

[b] Alston says, "with regard to these plants growing here, I venture to say, that, if their juice be not the opopanax, it is very like it." *M. M. v. ii. p.* 443.

[c] We find no account of the manner of obtaining this drug since that mentioned by Dodonaeus, *Pempt.* (p. 309.) & Boccone, (l. c)

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viz. "sometimes in little round drops or tears, more commonly in irregular lumps, of a reddish yellow colour, on the outside with specks of white, internally of a paler colour, and frequently variegated with large white pieces."

"This gummy-resin has a strong disagreeable smell, and a bitter acrid somewhat nauseous taste. It readily mingles with water, by triture, into a milky liquor, which on standing deposits a portion of resinous matter, and becomes yellowish: to rectified spirit it yields a gold-coloured tincture, which tastes and smells strongly of Opopanax. Water distilled from it is impregnated with its smell, but no essential oil is obtained on committing moderate quantities to the operation."[a]

Opopanax has been long employed by physicians, and esteemed for its attenuating, deobstruent, and aperient virtues; but as it is commonly prescribed in combination with other medicines, these qualities are by no means ascertained, nor do its sensible qualities indicate it to be a medicine of much power. Dr. Cullen classes it with the antispasmodics; it is however less fetid than galbanum, though more so than ammoniacum, and therefore may be supposed to have some affinity to a union of these two. It has commonly been given in hypochondriacal affections, visceral obstructions, menstrual suppressions, and asthmas, especially when connected with a phlegmatic habit of body. It has no place in the Mat. Med. of the Edinburgh Pharmacopœia, but, by the London College it is directed in the pillulæ e gummi.

[a] *Lewis, M. M. p.* 468.

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ANETHUM GRAVEOLENS. COMMON DILL.

SYNONYMA. Anethum. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1033. *Raii Hist. p.* 415. Anethum hortense sive vulgare. *Park. Theat. p.* 886. Anethum hortense. *Bauh. Pin. p.* 147.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 364.

Ess. Gen. Ch. Fructus subovatus, compressus, striatus. *Petala* involuta, integra.

Sp. Ch. A. fructibus compressis.

THE root is annual or biennial, long, tapering, whitish, sending off strong fibres, and striking deeply in the ground: several stems usually proceed from the same root, and are erect, smooth, channelled jointed, branched, covered with a glaucous exudation, and rise about two feet in height: the leaves stand upon sheathy footstalks, placed at the joints of the stalk, and are alternate, smooth, doubly pinnated; pinnæ linear, pointed: the flowers are produced in terminal umbels, which are large, flat, and like the partial umbels, composed of several radii: it has no involucrum: the corolla consists of five petals, which are yellow, egg-shaped, obtuse, concave, and have their points turned inwards: the five filaments are yellow, longer than the corolla, and furnished with roundish antheræ: the germen is placed below the insertion of the petals, and is covered by the nectarium: the two styles are very short, and terminated by obtuse stigmata: the seeds are two, oval, flat, striated, and surrounded with a membranous margin. The flowers appear in June and July.

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This plant, which is a native of Spain and Portugal, appears by the Hortus Kewensis, to have been first cultivated in Britain by Mr. Gerard in 1597.[a] The seeds of Dill are directed for use by the London and Edinburgh Pharmacopœias; they have a moderately warm pungent taste, and an aromatic smell, but like that of the plant, not of the most agreeable kind.[b] "Water extracts very little of their virtues either by infusion or digestion for many hours. In boiling, their whole flavour exhales along with the watery vapour, and may be collected by distillation. Along with the water arises a considerable portion of pungent essential oil, smelling strongly of the Dill. These seeds impart their flavour to rectified spirit by digestion, but not by distillation, the active part of the seeds remaining in the extract."[c]

The seeds and the plant itself were formerly much used in medicine, and from the time of Dioscorides have been esteemed for their carminative and hypnotic powers, and therefore have been recommended in flatulent colics, and certain dyspeptic symptoms proceeding from a laxity of the stomach.[d] They are also said to be more effectual than the other seeds of this class in promoting the secretion of milk.[e] At this time however the seeds of Dill are seldom employed, though a simple distilled water prepared from them is directed both by the London and Edinburgh Pharmacopœias.

[a] *Hort. Kew.*

[b] Virgil does not seem to have been of this opinion:

Narcissum & florem jungit bene olentis anethi. Ecl. 2. v. 45.

[c] Lewis, *M. M. p.* 58.

[d] Forestus speaks highly of their use in allaying vomiting and hiccup. *Oper. Lib.* 6. *Obs.* 29. & *Lib.* 18. *Obs.* 12.

[e] Murray, *App. Med. vol. i. p.* 289.

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ANETHUM FŒNICULUM. COMMON FENNEL.

SYNONYMA. Fœniculum dulce. *Pharm. Lond. & Edinb.* et Fœniculum vulgare. *Pharm. Edinb.* Fœniculum dulce, et Fœniculum vulgare germanicum. *Bauh. Pin. p.* 147. Fœniculum vulgare. *Gerard. Emac. p.* 1032. *Park. Theat. p.* 884. *Raii Hist. p.* 457. *Synop. p.* 217. *Haller Hist. Stirp. Helv. n.* 760. A. Fœniculum. *Hudson. Fl. Ang. p.* 126. *Relhan. Fl. Cantab.* 123. *Withering. Bot. Arr. p.* 311. *Smith. Brit.* 329. *ic. Mill. Illust.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 364.

Ess. Gen. Ch.. Fructus subovatus, compressus, striatus. *Petala* involuta, integra.

Sp. Ch. A. fructibus ovatis.

THE root is perennial, white, tapering, and fibrous; three or four stems usually rise from the same root, and are erect, round, striated, of a glaucous tinge, jointed, branched, and three or four feet in height: the leaves stand alternately at the joints of the stem upon long striated sheaths, and are bipinnated, divided into long linear pointed pinnæ, of a deep green colour: the flowers are produced in terminal umbels, which resemble those of Dill: there are no involucra: the corolla consists of five petals, which are yellow, ovate, emarginated, and have their points turned inwards: the five filaments are yellow, spreading, shorter than the petals, and supplied with double antheræ: the germen is smooth, cylindrical, truncated, striated, and covered with the nectarium, which is a large roundish fleshy yellow substance, divided into two parts, from each of which rises a short thick style, terminated by a

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blunt stigma: the seeds are two, oval, and deeply furrowed. The flowers appear in June.

The seeds of Fœniculum dulce are admitted of the Materia Medica in both Pharmacopœias, and the root of Fœniculum vulgare also in that of the Edinburgh College;* but both these plants being considered as varieties of the Anethum Fœniculum, they are comprised in the figure here prefixed.

Fennel is found to grow wild in many parts of England, affecting dry chalky soils; but that which is cultivated in our gardens is more fragrant, of a sweeter flavour, and, excepting the seeds, which are brought from the south of Europe,† commonly used both for medicinal and culinary purposes.

The seeds have an aromatic smell, and a warm sweetish taste.—"Water extracts the virtue of these seeds very imperfectly by infusion, but carries it off totally in evaporation: after repeated infusion, they retain part of their aromatic warmth, and the liquors are much less agreeable than the seeds in substance; after boiling for some time, the seeds prove entirely insipid, and the decoction, inspissated to the consistence of an extract, is very nearly so. By distillation they impregnate water with their flavour: a gallon receives a strong impregnation from a pound of the seeds. A large portion of essential oil separates in the distillation;—in smell resembling the fennel, in taste mild and sweetish like the oil of aniseeds, and like it also congealing, by a slight cold, into a white butyraceous mass. These seeds contain likewise a considerable quantity of a gross oil of the expressed kind, which, when freed from the essential oil, discovers no particular smell or taste. This oil is

* "By Fœniculum dulce, (Dr. Cullen says) we mean seeds imported from a southern climate; we allow however the roots to be taken, as they most conveniently may, from the plants growing in our gardens." *M. M. vol. ii. p.* 158.

† "Fœniculum dulce copiosissime colitur in Italia & Sicilia, quarum regionum clima plus illi conciliat dulcitatis, quam in Gallia attingere potest, quare etiam planta junior, cum radice & herba, frequenter ibi estur cruda cum sale & pane." *Bergius, M. M. p.* 228. See Labat, *Voyage en Espagne & en Italie. t.* 5. *p.* 170.

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extracted, along with the aromatic matter of the fennel, by digestion in rectified spirit, but separates and rises to the surface upon inspissating the filtered tincture. The spirit, gently distilled off, has very little of the flavour of the seeds; the oily matter retains a part both of their taste and smell; but much the greatest part remains concentrated in the extract."[b]

The Fœniculum of the Latins is supposed to be the Μαραθρον of the Greeks, by whom it was highly esteemed for promoting the secretion of milk,[c] an opinion which the experience of some modern authors has tended to confirm.[d] The seeds are also supposed to be stomachic and carminative, but these, and indeed all the other effects ascribed to Fennel, as depending upon their stimulant and aromatic qualities, must be less considerable than those of dill, anise, and caraway, though termed one of the four greater hot seeds.

The root, which Alston says may be called alimentum medicamentosum, which was by Boerhaave thought to possess all the virtue of Ginseng, and which ranks as one of the five aperient roots, is now wholly disregarded. To the taste it is sweet, with very little aromatic warmth, and said to be pectoral and diuretic.

By the London Pharmacopœia a simple distilled water is directed to be prepared from the seeds of Fennel, which also enter some other officinal compositions.

[b] Lewis, *M. M. p.* 303.

[c] Hippoc. *De Morb. Mul. Lib.* 1. *Sect.* 5. *p.* 608. *Fœs.* Dioscorid. *M. M. Lib.* 3. *c.* 81. *p.* 205. *Sarac.*

[d] Bergius, *Nov. Act. Ups. vol. i. p* 104. [e] *Lect. on the M. M. vol. i. p.* 385.

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DAUCUS CAROTA. WILD CARROT, or BIRD's NEST.

SYNONYMA. Daucus sylvestris. *Pharm. Lond. & Edinb.* Pastinaca sylvestris tenuifolia Dioscoridis, vel Daucus officinarum. *Bauh. Pin. p.* 151. Daucus vulgaris. *Rait Synop. p.* 218. Pastinaca sylvestris tenuifolia. *Gerard Emac. p.* 1028. *Park. Theat. p.* 901. *Rati Hist. p.* 465. Daucus involucris cavis, communibus pinnatis, peculiaribus lineari lanceolatis. *Hall. Stirp. Helv. n.* 746. Daucus Carota. *Huds. Ang. p.* 114. *Lightf. Scot. p.* 156. *Withering. Bot. Arr. p.* 274. *Relhan. Cantab. p.* 112. *Smith. Brit.* 300. *Ic. Flor. Dan. p.* 723.

α Pastinaca tenuifolia sativa radice lutea. *C. Bauh.*
Yellow Garden Carrot.

β Pastinaca tenuifolia sativa radice atrorubente. *C. Bauh.*
Red Garden Carrot. Aiton. Hort. Kew.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 333.

Ess. Gen. Ch. *Cor.* subradiatæ, omnes hermaphroditæ.
Fructus pilis hispidus.

Sp. Ch. D. seminibus hispidis, petiolis subtus nervosis.

THE root is biennial, large, spindle-shaped, fleshy, and yellowish: the stalk is round, erect, branched, furrowed, hairy, and rises about two feet in height: the leaves are large, and at the root many times pinnated; those on the stalk are gradually smaller towards the top, and cut into irregular pinnulæ, which on the upper side are of a deep green colour: the leaves are all somewhat hairy, and stand upon footstalks, which are nerved on the under side: the umbels are

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composed of several radii, and form a flat surface at the top while in flower, but when the seeds ripen, become concave, and drawn together: the partial umbels are similar to those of the general: the general involucrum consists of several leaves, which are cut into long narrow segments: the partial involucrum is more simple, consisting of strap-shaped leafits: the corolla is composed of five petals, of which the outermost is the largest; they are all white, heart-shaped, and bent inwards: the five filaments are capillary, and furnished with simple antheræ: the germen is small, and supports two reflexed styles, terminated by blunt stigmata: the seeds are two, egg-shaped, convex, rough on one side, covered with strong hairs, and flat on the other. It grows wild in meadows and pastures, and flowers from June till August.

This plant, in its cultivated state, is the well-known garden Carrot, the roots of which are commonly served up at our tables. They appear by experiments to contain a large proportion of saccharine matter,* and consequently afford much nourishment: however they are found to be very difficult of digestion in the stomach, for if eaten raw, or imperfectly boiled, they usually pass through the body without suffering any material change.[a] It is on this account, probably, that raw carrots have been given to children as a vermifuge. The expressed juce, or a decoction of these roots, has been recommended in calculous complaints, and as a gargle for infants in apthous affections, or excoriations of the mouth;[b] and a poultice of scraped carrot has been found an useful application to phagedenic ulcers, and to cancerous and putrid sores.[c]

* V. Marcgr. *Mem. de l'Acad. des Sc. de Berlin.* 1747. *p.* 89. See also *Hann. Magaz.* 1773. *n.* 75.

[a] "On which account I have employed them as a means of ascertaining the "time which food takes to pass through the tract of the alimentary canal."—*Withering*, *l. c.*

[b] V. Rosenstein in Bosch.

[c] This use of the Carrot poultice was first discovered by Sulzer, (see *Journal de Medicine*, *t.* 24. *p.* 68.) since which its good effects are related by Gibson (in *Med. Obs. & Inquir. vol.* 4.) and others who have very generally found it to mitigate the pain and abate the stench of foul cancerous ulcers.

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The seeds of wild Carrot, which obtain a place in the Materia Medica, have a light aromatic smell, and a warm acrid taste. "Water, digested on the seeds, becomes impregnated with their smell, but takes up very little of their taste: in distillation or evaporation, it elevates the whole of their smell and aromatic warmth: on distilling large quantities, a small portion of yellowish essential oil is obtained, of a moderately pungent taste, and smelling strongly of the daucus. Rectified spirit takes up the whole of their virtue by digestion, and elevates little in distillation: the remaining extract smells weakly, and tastes strongly of the seeds."[d] These seeds possess, though not in a very considerable degree, the aromatic qualities common to those of most of the umbelliferous plants, and hence have long been deemed carminative and emmenagogue; but they are chiefly esteemed for their diuretic powers, and for their utility in calculous and nephritic complaints,[e] in which an infusion of three spoonfuls of the seeds in a pint of boiling water has been recommended; or the seeds may be fermented in malt liquor, which receives from them an agreeable flavour, resembling that of lemon peel.[f]

[d] *Lewis, M. M. p. 271.*

[e] In opposition to this opinion, Dr. Cullen says, "We have seen the semen dauci sylvestris employed in calculous cases in considerable quantities, and for a length of time, but never found its diuretic power anywise remarkable." *M. M. vol. ii. p. 552.*

[f] *Lewis, l. c.*

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PIMPINELLA SAXIFRAGA. SMALL BURNET-SAXIFRAGE.

SYNONYMA. Pimpinella. *Pharm. Edinb.* Pimpinella saxifraga minor. *Bauh. Pin. p.* 160. Pimpinella seu saxifraga minor. *Gerard. Emac. p.* 1044. Saxifraga hircina minor. *Park. Theat. p.* 947. *Raii Hist. p.* 445. *Synop. p.* 213. Tragoselinum foliis pinnatis, pinnis ovatis. *Hall. Stirp. Helv. n.* 786. P. Saxifraga. *Hudson. Flor. Ang. p.* 127. *Smith. Brit.* 331. *Lightfoot. Flor. Scot. p.* 169. *Withering. Bot. Arr. p.* 313. *Relhan. Flor. Cant. p.* 124. *Ic. Jacq. Aust.* 395. *Flor. Dan.* 669.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 366.

Ess. Gen. Ch. *Fructus* ovato-oblongus. *Petala* inflexa. *Stigmata* subglobosa.

Sp. Ch. P. foliis pinnatis: foliolis radicalibus subrotundis; summis linearibus.

THE root is perennial, spindle-shaped, whitish: the stem is erect, round, scored, downy, jointed, towards the top a little branched, and rises above a foot in height: the leaves are variously shaped, pinnated, alternate; on the upper part of the stem they divide into simple linear laciniæ; toward the bottom the pinnæ are broader, and at the root roundish, and deeply indented at the edges: the flowers are white, and stand in umbels, which are terminal, flat, consisting of twelve radii or more, both in the general and partial umbels: there is no involucrum: the proper corolla consists of five petals, which are ovate, and bent inwards at their extremities: the filaments are white, tapering, spreading, and furnished with roundish antheræ: the germen is egg-shaped, striated, and upon it is placed a white fleshy double nectarium: the two styles are

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short, white, and furnished with simple stigmata: the seeds are naked, furrowed, egg-shaped. It is a native of this country, and grows in dry meadows and pastures: the flowers appear in August and September.

Several species of Pimpinella were formerly officinally used, of which the P. magna, and the species represented in the annexed plate, were the principal; in their medicinal qualities however these are found to have no remarkable difference.* The roots, which obtain a place in the Materia Medica of the Edinburgh Pharmacopœia, have an unpleasant smell, and a hot pungent bitterish taste:† on drying, or on being long kept, their pungency is considerably diminished. Their virtue is extracted partially by water, and completely by rectified spirit. When large quantities of the root are distilled with water, a small portion of essential oil, extremely acrid and fiery, may be obtained.[a]

Bergius states the virtues of this root to be resolvent, diaphoretic, stomachic, and diuretic.[b] It is recommended by several writers[c] as a stomachic, and in all cases where pituitous humours are thought to prevail, as asthmas, dropsies, catarrhal coughs, hoarsenesses, and what has been called angina serosa; and by Hoffmann[d] it is said to be an excellent emmenagogue. In the way of gargle it has been employed for dissolving viscid mucous, and to stimulate the tongue, when that organ becomes paralytic.

Pimpinella formerly entered the officinal pulvis ari, and like the arum it appears to be an acrid stimulant; but how far this quality renders it fit for the cure of the above-mentioned disorders, we leave to the consideration of others. It may be given in doses of a scruple in substance, and in infusion to two drams.

* *Murray, App. Med. vol. i. p.* 295.

† Hence chewing it is recommended to relieve the tooth-ach.

[a] *Lewis, Mat. Med. p.* 502. [b] *M. M. p.* 230.

[c] Especially German Physicians. [d] *Med. off. p.* 533.

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PIMPINELLA ANISUM. ANISE.

SYNONYMA. Anisum. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1035. *Park. Theat. p.* 911. *Raii Hist. p.* 450. Anisum herbariis. *Bauh. Pin. p.* 159. Anisum vulgare. *Clus. Hist. ii. p.* 202. Anisum vulgatius minus annuum. *Hist. Ox. iii. p.* 297.

Sp. Ch. P. foliis radicalibus trifidis incisis.

THE root is annual, tapering: the stem is upright, branched, striated, jointed, smooth, and rises about a foot in height: the leaves on the upper part of the stem are divided into narrow pinnated segments, but at the bottom they are roundish, separated in three or five indented lobes, and stand upon scored sheath-like footstalks: the flowers are small, white, and placed in umbels, which are terminal, flat, consisting of several general and partial radii, without involucra: the parts of inflorescence resemble those of the P. Saxifraga; therefore need not be repeated here. It is a native of Egypt, and flowers in July.

The Anise was cultivated here in the time of Turner, (1551) but our summers are seldom warm enough to bring the plant to perfection. The seeds, according to Miller, are annually imported here from Malta and Spain, where the Anise is chiefly cultivated. Savary also informs us, that "the Maltese and Alicant Anise is most esteemed, though not so green as the French;" and the Spanish Aniseeds are easily distinguished from those of France and Germany, by being much smaller.

Aniseeds have an aromatic smell, and a pleasant warm taste, accompanied with a considerable degree of sweetness. "They totally give out their virtue to rectified spirit.—The spirit, distilled off from the filtered tincture, has a light taste of the seeds, but leaves far the greatest part of their virtue behind in the extract.—Infused in water, they impart a little of their smell, but scarcely any taste: in distillation they give out the whole of their flavour."

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"Along with the water arises an essential oil, to the quantity of an ounce or more from three pounds."

"This oil, in colour yellowish, congeals, even when the air is not sensibly cold, into a butyraceous white concrete. Its smell, which exactly resembles that of the Aniseeds, is extremely durable and diffusive; its taste is milder and less pungent than that of almost any other distilled vegetable oils."

"These seeds yield an oil likewise upon expression, of a greenish colour, in taste grateful, and strongly impregnated with the flavour of the seeds: sixteen ounces, lightly moistened by exposure to the steam of boiling water, are said to afford one ounce. This oil is composed of a gross insipid, inodorous one, of the same nature with the common expressed oils; and a part of the essential oil of the seed, on which the flavour depends."[a]

The seeds of Anise, which are ranked among the four greater hot seeds, have been long medicinally employed by physicians as an aromatic and carminative, in preference to those of most of the other umbelliferous plants; they have also been esteemed useful in pulmonary complaints, and to possess, like those of fennel, a power of promoting the secretion of milk. Their chief use however is in flatulencies, and in the gripes, to which children are more especially liable; and they are usefully combined with such purgatives as are apt to produce these effects. Weakness of the stomach, diarrhœas, and loss of tone in the primæ viæ, are likewise complaints in which Aniseeds are supposed to be peculiarly useful; and hence by V. Helmont they were called *Solamen intestinorum.*

The essential oil,* which is the only officinal preparation of Aniseeds now directed by the Pharmacopœias, is usually grateful to the stomach, and may be taken in the dose of twenty drops. In diseases of the breast, the oil is preferred, but in flatulencies and colics the seeds in substance are said to be more effectual.[b]

[a] *Lewis, M. M. p.* 62.

* It is asserted, that this oil proves a poison to pigeons, Oleum Anisi præsentaneum est venenum columbis, si pancæ guttulæ ipsarum rostro instillentur & capiti infricentur, ut observavit Rud. A. Vogel. (Hist. Mat. Med. 161) & confirmavit P. (Stralsund. Mag. p. i. p. 56.) Vide *Bergius, M. M. p.* 232. [b] *Lewis, l. c.*

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CORIANDRUM SATIVUM. COMMON CORIANDER.

SYNONYMA. Coriandrum. *Pharm. Lond. & Edinb. J. Bauh. vol. iii. p.* 89. *Gerard. Emac. p.* 1012. *Raii Hist. p.* 470. *Synop. p.* 221. *Hall. Stirp. Helv. n.* 764. Coriandrum majus. *Bauh. Pin. p.* 158. Coriandrum vulgare. *Park. Theat. p.* 918. C. sativum. *Hudson. Flor. Ang. p.* 123. *Withering. Bot. Arr. p.* 302. *Smith. Brit.* 320. *Sowerby's English Botany, p.* 67. Κορις vel Κορίαννον. *Dioscorid.* Κορίαννον. *Theophr.*

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 356.

Ess. Gen. Ch. *Cor.* radiata: *Petala* inflexo-emarginata. *Involucr. universale* 1-phyllum: *Partialia* dimidiata. *Fructus* sphæricus.

Sp. Ch. C. Fructibus globosis.

THE root is annual: the stalk is erect, branched, round, smooth, of a glaucous tinge, and rises about two feet in height: the leaves are variously pinnated; those of the upper part of the stalk are divided into narrow linear alternate pointed segments; those at the bottom are cut into irregular serrated lobes, resembling the leaves of common parsley: the flowers are white, or reddish, and placed in terminal umbels, appearing in June: the partial umbels are composed of more radii than the general, and each is furnished with an involucrum of three narrow leaves; but the general involucrum is commonly wanting, or composed of a simple leafit: the general corolla is irregular in its shape, and unequal: the petals are five, oblong, bent inwards, and at the circumference the outermost are the largest: the filaments are five, slender, and furnished with roundish yellow antheræ: the germen is globular, placed below the insertion of the corolla, and supports two short

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styles, bent in opposite directions, and terminated by simple stigmata: the fruit is globular, and divisible into two hemispherical concave seeds.

This plant is a native of the South of Europe, where in some places it is said to grow in such abundance, as frequently to choke the growth of wheat and other grain.[a] From being cultivated here as a medicinal plant, it has for some time become naturalized to this country,[b] where it is usually found in corn fields, the sides of roads, and about dunghills.

Every part of the plant, when fresh, has a very offensive odour,* but upon being dried the seeds have a tolerably grateful smell, and their taste is moderately warm, and slightly pungent. "They give out their virtue totally to rectified spirit, but only partially to water. In distillation with water, they yield a small quantity of a yellowish essential oil, which smells strongly and pretty agreeably of the Coriander."[c]

Dioscorides[d] asserts, that these seeds, when taken in a considerable quantity, produce deleterious effects; and in some parts of Spain and Egypt, where the fresh herb is eaten as a cordial, instances of fatuity, lethargy, &c. are observed to occur very frequently;[e] but these qualities seem to have been unjustly ascribed to the Coriander; and Dr. Withering informs us, that he has "known six drams of the seeds taken at once without any remarkable effect."[f]

[a] See Murray, *App. Med. vol. i. p.* 278. [b] See *English Botany, p.* 67.

* "Coriander was probably so called from κορις cimex, because the green herb, seed and all, stinks intolerably of bugs." Alston. *Lect. on the M. M. vol. ii. p.* 349.

[c] *Lewis, M. M. p.* 253.

[d] "Si largius sumptum fuerit semen, mentem, non sine periculo, e sua sede & statu demovet." And again, "Coriandrum propter odorem latere non potest: epotum vocis raucitatem facit, atque insaniam, qualis ex vinolentia proficiscitur, ita ut qui sumpsere varia dicta pudenda blatterant: toto vero corpore coriandri odor se prodit." *L.* 3. *c.* 71. [e] Vide *C. Hoffmann. Med. Off. p.* 241.

[f] *Withering, l. c.*

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These seeds, like those last mentioned, and indeed those of most of the umbelliferous plants, possess a stomachic and carminative power. They are directed in the infusum amarum, the infusum sennæ tartarisatum, and some other compositions of the Pharmacopœias; and according to Dr. Cullen, the principal use of these seeds is, "that, infused along with senna, they more powerfully correct the odour and taste of this than any other aromatic that I have employed; and are, I believe, equally powerful in obviating the griping that senna is very ready to produce."[s]

[s] *Mat. Med. vol. ii. p.* 158.

SIUM NODIFLORUM. CREEPING WATER PARSNEP.

SYNONYMA. Sium. *Pharm. Lond.* Sium aquaticum procumbens, ad alas floridum. *Moris. Hist. iii. p.* 283. *s.* 9. *t.* 5. *f.* 3. *Petiv. t.* 26. *f.* 3. Sium umbellatum repens. *Gerard. Emac. p.* 256. *Raii Synop. p.* 211. *Hist.* 444. Sium foliis radicalibus ovatis, pinnatis, dentatis; caulinis appendiculatis; umbellis alaribus. *Hall. Stirp. Helv. n.* 778. S. nodiflorum. *Hudson. Flor. Ang. p.* 119. *Withering. Bot. Arr. p.* 292. *Lightfoot. Flor. Scot. p.* 161. *Relhan. Flor. Cantab. p.* 116. *Smith. Brit.* 313. *Eng. Bot.* 639.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 348.

Ess. Gen. Ch. *Fructus* subovatus, striatus. *Involucrum* polyphyllum, *Petala* cordata.

Sp. Ch. S. foliis pinnatis, umbellis axillaribus sessilibus.

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THE root is perennial, long, creeping, and hung with numerous fibres: the stem is jointed, thick, succulent, scored, procumbent, branched, and seldom reaches a foot in length: the leaves are pinnated, consisting of three or four pairs of pinnæ, terminated by an odd one; the pinnæ or segments are ovate, pointed, serrated, sessile: the flowers are small, and stand in axillary umbels, which are composed of from six to nine general radii, and about an equal number of partial radii: there is no general involucrum, but the partial one consists of five, six, or seven ovate pointed leafits: the corolla is composed of five petals, which are entire, ovalish, white, largest at the circumference, and bent inwards at their apices: the five filaments are slender, spreading, rather longer than the corolla, and furnished with roundish antheræ: the germen is small, placed beneath the corolla, and supports two slender reflexed styles, terminated by blunt stigmata: the fruit is egg-shaped, small, scored, divisible, into two seeds, which are flat on one side, on the other convex and scored. It is common in rivers and ditches, and flowers in July and August.

This plant is not admitted into the Materia Medica of any of the Pharmacopœias which we have seen, except that of the London College, where it has lately been received in the character of an antiscorbutic, or rather as a corrector of acrid humours, especially when manifested by cutaneous eruptions and tumours in the lymphatic system, for which we have the testimony of Beirie[a] and Ray.[b] But the best proofs of its efficacy are the following given by Dr. Withering: "A young lady, six years old, was cured of an obstinate cutaneous disease, by taking three large spoonfuls of the juice twice a day: and I have repeatedly given to adults three or four ounces every morning, in similar complaints, with the greatest advantage. It is not nauseous, and children take it readily if mixed with milk. In the dose I have given it, it neither affects the head, the stomach, nor the bowels."[c]

[a] See *l. c.* [b] *Dict. de la Mat. Med.* [c] *Synop. p.* 213.

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LIGUSTICUM LEVISTICUM. COMMON LOVAGE.

SYNONYMA. Levisticum. *Pharm. Edinb.* Ligusticum vulgare. *Bauh. Pin. p.* 157. Ligusticum vulgare, foliis apii. *J. Bauh. iii. p.* 122. Levisticum vulgare. *Gerard. Emac. p.* 1008. *Park. Theat. p.* 936. *Raii. Hist. p.* 437. Angelica montana perennis, Paludapii folio. *Tourn. Inst. p.* 313.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 346.

Ess. Gen. Ch. *Fructus* oblongus, 5-sulcatus utrinque. *Corollæ* æquales. *Petalis* involutis, integris.

Sp. Ch. L. foliis multiplicibus: foliolis superne incisis.

THE root is perennial, long, tapering, branched, externally brown, internally whitish: the stalk is erect, branched, smooth, striated, and rises five or six feet in height: the upper leaves are small, and irregularly cut into narrow elliptical segments; the lower leaves are large, doubly pinnated; pinnæ indented, pointed, often lobed, and placed in pairs with an odd one at the top: the flowers are small, of a whitish yellow colour, and produced in umbels: the general and partial umbels are composed of nearly an equal number of radii, and each furnished with involucra, consisting of about seven simple ovate segments: all the flowers are fertile: the corolla consists of five petals, which are egg-shaped, and turned inwards: the five filaments are capillary, shorter than the corolla, and furnished with simple antheræ: the germen is truncated at the top, upon which are placed two nectarious corpuscles, supporting two short styles, crowned with simple stigmata: the fruit is oblong, angular, furrowed, divisible into two seeds, which

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are oblong, on one side striated and convex, on the other flat and smooth: the flowers appear in June and July. It is a native of the Alps, and according to Mr. Aiton was first cultivated in England by Mr. Gerard.

The odour of this plant is very strong, and peculiarly ungrateful; its taste is warm and aromatic. It abounds with a yellowish gummy resinous juice, very much resembling opoponax. Its virtues are supposed to be similar to those of angelica and masterwort in expelling flatulencies, exciting sweat, and opening obstructions; therefore chiefly used in hysterical disorders, and in uterine obstructions. A teacupful of the juice with rhenish wine, or a decoction of the seeds with wine or mugwort water, was, by Forestus,[a] said to be a secret remedy of extraordinary efficacy in slow or laborious parturition. The leaves, eaten as sallad, are accounted emmenagogue.[b] The root, which is less ungrateful than the leaves, is said to possess similar virtues, and may be employed in powder.

[a] See Forest. lib. 28. obs. 32. in schol. [b] Chomel. Usuelles, t. 2. p. 216.

CUMINUM CYMINUM. CUMMIN.

SYNONYMA. Cuminum. *Pharm. Lond. & Edinb.* Cuminum semine longiore. *Bauh. Pin. p.* 146. Cuminum sativum Dioscoridis. *Gerard. Emac. p.* 1066. Cyminum, sive Cuminum sativum. *J. Bauh. iii. p.* 22. *Rati Hist. p.* 133. Cuminum vulgare. *Park. Theat. p.* 887. Cuminum. *Mor. Umb.* 4. *Hist. Oxon. iii. p.* 271. Fœniculum orientale, Cuminum dictum. *Tourn. Inst.* 312. *Icon. Rivin. Pentap. t.* 40.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 351.

Ess. Gen. Ch. Fructus ovatus, striatus. *Umbellulæ* [illegible] *Involucra* 4-fida.

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THE root is annual, simple, fibrous: the stalk is round, slender, often procumbent, branched, and rises about six or eight inches in height: the leaves are numerous, narrow, linear, pointed, grass-like: the flowers are purple, and produced in numerous small umbels, which are usually composed of four radii, each supporting a partial umbel of a like number: the general and partial involucra consist of four narrow pointed segments: all the florets are fertile: the corolla is composed of five petals, which are unequal, bent inwards, and notched at the apex: the filaments are five, and furnished with simple antheræ: the germen is large, ovate, and placed below the corolla: the two styles are minute, and terminated by simple stigmata: the fruit is egg-shaped, or oblong, striated: the seeds are two, oblong, flat on one side, convex and striated on the other.

This plant, which is the only species of Cuminum yet discovered, is a native of Egypt and Ethiopia, and is cultivated in the islands of Sicily and Malta, from whence we are supplied with the seeds.[a]

"Cumin seeds have a bitterish warm taste, accompanied with an aromatic flavour, but not agreeable. They give out great part of their smell by infusion in water, but very little of their taste: in distillation with water, a pungent oil arises, of a strong ungrateful flavour like that of the seeds: the decoction, inspissated, leaves a weakly roughish bitterish extract. Rectified spirit takes up the whole virtues of the cummin by infusion, and leaves them nearly uninjured in evaporation."[b]

Cummin has been thought to be the Κυμινον of Dioscorides. The seeds, which rank as one of the four greater hot seeds, contain a large proportion of essential oil, and are therefore supposed to possess a carminative and stomachic power, equal, if not superior to most of those of the umbelliferous class.[c] They are generally preferred to the other seeds for external use in discussing indolent tumours, and give name both to a plaster and cataplasm in the Pharmacopœias.

[a] It was cultivated in England in 1594 by Sir Hugh Plat. See *Plat's Garden of Eden. part. ii. p.* 134. *Hort. Kew.*

[b] *Lewis. Mat. Med. p.* 268. [c] *Cullen. M. M. vol. ii. p.* 159.

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ORD. VII. HEDERACEÆ.

From *Hedera* Ivy.—Ivy-like Plants.

VITIS VINIFERA. COMMON VINE.

SYNONYMA. Vitis. *Pharm. Lond.* Vitis vinifera. *Bauh. Pin. p.* 299. *J. Bauh. Hist. iii. p.* 67. *Gerard. Emac. p.* 875. *Park. Theat. p.* 1555. *Raii Hist.* 1613. *Kniph. Bot. orig. cent.* 6. *Duhamel. Arb. ii. p.* 360. *t.* 106. *Schmidel. Ic. plant. t. vii.*
β. Vitis corinthiaca s. apyrena. *Bauh. Hist. ii. p.* 72.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 284.

Ess. Gen. Ch. Petala apice cohærentia, emarcida. *Bacca* 5-sperma, supera.

Sp. Ch. V. foliis lobatis sinuatis nudis.

THE Vine sends off numerous long slender climbing branches, and is covered with rough dark brown bark: the leaves are roundish deeply serrated, commonly divided into three lobes, and stand alternately upon long footstalks: the flowers are small, and produced in spikes: the calyx is divided into five small narrow segments: the petals are five, small, oblong, whitish, withered, adherent at their apices, and soon fall off: the five filaments are tapering, and furnished with simple antheræ: the germen is egg-shaped, without any style, but supplied with a cylindrical stigma: the fruit is a large round berry, of one cell, and contains five hard seeds, of an irregular form. The flowers appear in June and July.

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The Vine is a native of most of the temperate parts of the four quarters of the world, and is successfully cultivated in our hemisphere between the thirtieth and fifty-first degree of latitude. Through the effects of culture, and a difference of soil and climate, numerous varieties of grapes are produced, differing widely in shape, colour, and taste, and affording wines, which are known to be extremely various. Vine leaves, called *pampini*, and the tendrils or *capreoli*, have an astringent taste, and were formerly used in diarrhœias, hemorrhages, and other disorders, requiring refrigerant and styptic medicines. The juice, or sap, of the Vine, named *lachryma*, has been recommended in calculous disorders, and is said to be an excellent application to weak eyes, and specks of the cornea. The unripe fruit has a harsh rough sour taste: its expressed juice, called verjuice, was much esteemed by the ancients, but is now superseded by the juice of lemons; for external use however, particularly in bruises and sprains, verjuice is still employed, and considered to be a very useful application.

The dried fruit constitutes an article of the Materia Medica, under the name of uva passa, of which two kinds were formerly mentioned in our Pharmacopœias, viz. Uvæ passæ majores & minores, or raisins and currants; the latter is a variety of the former, or the fruit of the Vitis corinthiaca seu apyrena, of C. B. The manner of preparing them is by immersing them in a solution of alkaline salt, and soap lye made boiling hot, to which is added some olive oil and a small quantity of common salt, and afterwards drying them in the shade.* These fruits are used as agreeable lubricating acescent sweets, in pectoral decoctions, and for obtunding the acrimony of other medicines, and rendering them grateful to the palate and stomach. They are directed in the Decoctum hordei compositum, Tinctura sennæ, and Tinctura cardamomi composita.

Wine, or the fermented juice of the grape, of which there is a great variety, has by medical writers been principally confined to four sorts, as sufficient for officinal use. These are the vinum album

* See Antill in *American Philosophical Transact. vol. i. p.* 194.

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hispanicum, mountain; vinum canarium, canary or sack; vinum rhenanum, rhenish; and vinum rubrum, red port.

On a chemical investigation, all wines consist chiefly of water, alcohol, a peculiar acid, the aërial acid, tartar, and an astringent gummy resinous matter, in which the colour of red wine resides, and which is expressed from the husks of the grapes. They differ from each other in the proportion of these ingredients, and particularly in that of the alcohol, which they contain.

The qualities of wines depend not only upon the difference of the grapes, as containing more or less saccharine juice, and of the acid matter which accompanies it, but also upon circumstances attending the process of the fermentation. Thus, if the fermentation be incomplete, the wine may contain a portion of *must*, or unassimilated juice; or if it be too active, or too long protracted, it may be converted into vinegar.[b]

New wines are liable to a strong degree of acescency when taken into the stomach, and thereby occasion much flatulency, and eructations of acid matter; heart-burn, and violent pains of the stomach from spasms are also often produced; and the acid matter, by passing into the intestines, and mixing with the bile, is apt to occasion colics, or excite diarrhœas. Sweet wines are likewise more disposed to become acescent in the stomach than others; but as the quantity of alcohol which they contain is more considerable than appears sensibly to the taste, their acescency is thereby in a great measure counteracted. Red port, and most of the red wines, have an astringent quality, by which they strengthen the stomach, and prove useful in restraining immoderate evacuations; on the contrary, those which are of an acid nature, as rhenish, pass freely by the kidneys, and gently loosen the belly. But this, and perhaps all the thin or weak wines, though of an agreeable flavour, yet, as containing little alcohol, are readily disposed to become acetous in the stomach, and thereby to aggravate all arthritic and calculous complaints, as well as to produce the effects of new wine.

[b] *See Cullen M. M. vol. i. p.* 413.

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The general effects of wine are, to stimulate the stomach, exhilarate the spirits, warm the habit, quicken the circulation, promote perspiration, and in large quantities to prove intoxicating, and powerfully sedative.

In many disorders wine is universally admitted to be of important service, and especially in fevers of the typhous kind, or of a putrid tendency; in which it is found to raise the pulse, support the strength, promote a diaphoresis, and to resist putrefaction; and in many cases it proves of more immediate advantage than the Peruvian bark. Delirium, which is the consequence of excessive irritability, and a defective state of nervous energy, is often entirely removed by the free use of wine. It is also a well-founded observation, that those who indulge in the use of wine, are less subject to fevers, both of the malignant and intermittent kind. In the putrid sore throat, in the small-pox, when attended with great debility and symptoms of putrescency, in gangrenes, and in the plague, wine is to be considered a principal remedy. And in almost all cases of languors, and of great prostation of strength, wine is experienced to be a more grateful and efficacious cordial than can be furnished from the whole class of aromatics.

The Tartar, which is thrown off from wines to the sides and bottom of the cask, is also an officinal article, and consists of the vegetable alkali supersaturated with acid. When taken from the cask, it is found mixed with an earthy, oily, and colouring matter: that obtained from red wine is of deep brown colour, and commonly called red, and when it is of a paler colour, white tartar. It is purified by dissolving it in boiling water, and separating the earthy part by filtering the boiling solution. On cooling the solution, it deposits irregular crystals, containing the colouring matter, which is separated by boiling the mass with white clay. The tartar, thus purified, is called cream of tartar. If this be exposed to a red heat, its acid flies off, and what remains is the vegetable alkali, or salt of tartar.

Crystals of tartar are in common use as a laxative and mild cathartic; they are also esteemed for their cooling and diuretic

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qualities, and therefore have been much employed in dropsies, and other cases requiring an antiphlogistic treatment. Dr. Cullen says, "that in large doses they act like a purgative in exciting the action of the absorbents in every part of the system, and that more powerfully than happens from the operation of any entirely neutral salt;" and on this is founded their utility in the cure of dropsy. It must be remarked, however, that they do not readily pass off by the kidneys, unless taken with a large quantity of water; and therefore when intended as a diuretic they ought to be given in a liquid form, as Dr. Holme has directed. The dose is to be regulated according to the circumstances, from a dram to two ounces. These salts enter several officinal compositions.

Another article to be noticed here is Vinegar, which has been esteemed of great use in almost all inflammatory and putrid disorders, whether internal or external. Bergius says, it is refrigerans, resolvens, antiputredinosa, alexiteria, antiphlogistica, digestiva, antiscorbutica, diaphoretica. It is very efficacious in counteracting the effects of vegetable poisons, especially those of the narcotic kind. Inhaled in the form of a vapour, it is found useful in the putrid sore throat; and it has been given successfully in mania, and in rabies canina. Distilled and neutralized with volatile alkali, it forms the aqua ammoniæ acetatæ, or spiritus Mindereri, a medicine of common use in fevers. By distillation, however, the vinegar generally contracts an empyreumatic taste, and is seldom found in a rightly concentrated state; when required to be of great strength, it may be rendered so by freezing it, after the manner we have directed for concentrating the juice of lemons.

Vinegar is also much employed as a menstruum, or for extracting the virtues of other medicines.

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PANAX QUINQUEFOLIUM. GINSENG.

SYNONYMA. Ginseng. *Pharm. Lond.* & *Edinb.* *Raii Hist.* *p.* 1338. Aureliana canadensis. *Lafiteau* in *Memoires concernant la precieuse plante de Ginseng. Paris,* 1718. Et *Hist. de L'Acad.* 1718. *p* 42. *Catesby's Car.* 3. *p.* 16. *t.* 16. *Breyn.* in *Prod. rar.* *pl.* 2. *p.* 35. *Fig. ad. p.* 52. Araliastrum foliis ternis quinquepartitis Gingseng s. Ninsin officinarum. *Ehret. tabul. a Trew,* *t.* 6. *fig.* 1. Gin-seng Chinensibus. *Jartoux Phil. Trans. vol.* *xxviii. p.* 237. *Conf. Des lettres edifiantes & curieuses, tom. x. p.* 172. Araliastrum, quinquefolii folio, majus Ninsin * vocatum. *Vall. Sex.* 43.

Class Polygamia. *Ord.* Dioecia. *Lin. Gen. Plant.* 1166.

Ess. Gen. Ch. *Hermaphrod.* Umbella. *Cal.* 5-dentatus, superus. *Cor.* 5-petala. *Stam.* 5. *Styli* 2. *Bacca* disperma.

Masc. Umbella. *Cal.* integer. *Cor.* 5-petala. *Stam.* 5.

Sp. Ch. P. foliis ternis quinatis.

THE root is perennial, small, wrinkled, branched, of a pale yellowish colour, and sends off many short slender fibres: the stalk is erect, smooth, round, simple, tinged of a deep purple colour, and above a foot in height: the leaves arise with the flower stem from a thick joint at the extremity of the stalk; they are generally three, but sometimes more, of the digitated kind, each dividing into five simple leaves, which are of an irregular oval shape, serrated, veined, pointed, smooth, of a deep green colour above, and stand upon short footstalks proceeding from a common petiolus, which is long,

* The plant formerly known by this name is now understood to be the Sion Ninsi, of Linnæus.

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round, and almost erect: the flowers are white, produced in a roundish terminal umbel, and are hermaphrodite or male on separate plants: the former, which we have figured, stand in close simple umbels: the involucrum consists of several small, tapering, pointed, permanent leaves; the proper calyx is tubular, and divided at the rim into five small teeth: the corolla consists of five petals, which are small, oval, equal, and reflexed: the filaments are five, short, and furnished with simple antheræ: the germen is roundish, placed below the corolla, and supports two short erect styles, crowned by simple stigmata: the fruit is an umbilicated two-celled berry, each containing a single irregularly heart-shaped seed. The flowers appear in June.

Ginseng was formerly supposed to grow only in Chinese Tartary, affecting mountainous situations, shaded by close woods; but it has now been long known that this plant is also a native of North America, whence M. Sarrasin transmitted specimens of it to Paris in the year 1704;[b] and the Ginseng since discovered in Canada, Pensylvania, and Virginia, by Lafiteau,[c] Kalm,[d] Bartram,[e] and others, has been found to correspond exactly with the Tartarian species, and its roots are now regularly purchased by the Chinese, who consider them to be the same as those of eastern growth, which are known to undergo a certain preparation, whereby they assume an appearance somewhat different. For it is said that in China the roots are washed and soaked in a decoction of rice, or millet-seed, and afterwards exposed to the steam of the liquor, by which they acquire a greater firmness and clearness than in their natural state.* The plant was first introduced into England in 1740 by that industrious naturalist Peter Collinson,[f] and our

[b] Sarrasin was correspondent of the Royal Academy of Sciences, in the history of which his account was published in 1718. See p. 44.

[c] L. c. [d] *Rosa til N. America, t. iii. p.* 334. [e] *Comm. Nor.* 1741. *p.* 361.

* The Chinese value these roots in some measure according to their figure, esteeming those very highly which are regularly forked, or have a fancied resemblance to the human form.

[f] See *Hort. Kew.*

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figure was drawn from a good specimen, growing in the Royal Botanic garden at Kew.

The dried root of Ginseng, as imported here, is scarcely the thickness of the little finger, about three or four inches long, frequently forked, transversely wrinkled, of a horny texture, and both internally and externally of a yellowish white colour. "To the taste it discovers a mucilaginous sweetness, approaching to that of liquorice, accompanied with some degree of bitterishness, and a slight aromatic warmth, with little or no smell. It is far sweeter and of a more grateful smell than the roots of fennel, to which it has by some been supposed similar; and differs likewise remarkably from those roots, in the nature and pharmaceutic properties of its active principles; the sweet matter of the Ginseng being preserved entire in the watery as well as the spirituous extract, whereas that of fennel roots is destroyed or dissipated in the inspissation of the watery tincture. The slight aromatic impregnation of the Ginseng is likewise in good measure retained in the watery extract, and perfectly in the spirituous."[g]

The Chinese ascribe extraordinary virtues to the root of Ginseng, and have long considered it as a sovereign remedy in almost all diseases to which they are liable, having no confidence in any medicine unless in combination with it. It is observed by Jartoux, that the most eminent Physicians in China have written volumes on the medicinal powers of this plant, asserting that it gives immediate relief in extreme fatigue, either of body or mind, that it dissolves pituitous humours, and renders respiration easy, strengthens the stomach, promotes appetite, stops vomitings, removes hysterical, hypochondriacal, and all nervous affections, and gives a vigorous tone of body, even in extreme old age.[h] These, and many other effects of this root, equally improbable and extravagant, are related by various authors, and Jartoux was so much biassed by this eastern prejudice in favour of Ginseng,

[g] *Lewis, M. M. p.* 325.

[h] L. c. See also Decker, (*Exercit. pract. p. m.* 670.)

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that he seems to have given them full credit, and confirms them in some measure from his own experience.[i] But we know of no proofs of the efficacy of Ginseng in Europe, and from its sensible qualities we judge it to possess very little power as a medicine.[k] It is recommended in decoction, viz. a dram of the root to be long boiled in a sufficient quantity of water for one dose.

[i] He says, "Nobody can imagine that the Chinese and Tartars would set so high a value upon this root, if it did not constantly produce a good effect."—"I observed the state of my pulse, and then took half of a root raw: in an hour after I found my pulse much fuller and quicker; I had an appetite, and found myself much more vigorous, and could bear labour much better and easier than before. But I did not rely on this trial alone, imagining that this alteration might proceed from the rest we had that day: but four days after, finding myself so fatigued and weary that I could scarce sit on horseback, a Mandarin who was in company with us perceiving it, gave me one of these roots: I took half of it immediately, and an hour after I was not the least sensible of any weariness. I have often made use of it since, and always with the same success. I have observed also, that the green leaves, and especially the fibrous parts of them chewed, would produce nearly the same effect." *Phil. Trans. vol. xxviii. p.* 239.

[k] Dr. Cullen says, "We are told that the Chinese consider Ginseng as a powerful aphrodisiac; but I have long neglected the authority of popular opinions, and this is one instance that has confirmed my judgment. I have known a gentleman, a little advanced in life, who chewed a quantity of this root every day for several years, but who acknowledged he never found his faculties in this way improved by it." *Mat. Med. v. ii. p.* 161.

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ORD. VIII. SARMENTACEÆ.

From *Sarmentum*, a long shoot like that of a vine: an order consisting of Plants which have climbing stems and branches, by which they attach themselves to the neighbouring bodies for support.

ARISTOLOCHIA SERPENTARIA. SNAKE-ROOT BIRTHWORT.

SYNONYMA. Serpentaria virginiana. *Pharm. Lond. & Edinb.* Aristolochia Pistolochia s. Serpentaria virginiana, caule nodoso. *Pluk. Alm.* 50. *t.* 148. *Catesby Hist. of Carol. t. p.* 29. *tab.* 29. *Raii Hist. vol. iii. p.* 394. Aristolochia polyrrhizos virginiana, &c. *Morris. Hist. p.* 310. *Park. Theat. p.* 420.

Class Gynandria. *Ord.* Hexandria. *Lin. Gen. Plant.* 1022.

Ess. Gen. Ch. Hexagyna. *Cal.* 0. *Cor.* 1-petala, lingulata, integra. *Caps.* 6-locularis, infera.

Sp. Ch. A. fol. cordato-oblongis planis, caulibus infirmis flexuosis teretibus, flor. solitariis. *Caulis geniculata valde nodosa. Flores ad radicem.*

THE root is perennial, and composed of a number of small fibres, proceeding from a common trunk; externally brown, and internally whitish: the stems are slender, round, crooked, jointed, and rise about eight or ten inches in height: the leaves are heart-shaped, entire, pointed, veined, and stand upon strong footstalks, to which they are attached by three prominent ribs: it has no calyx: the flowers are monopetalous, solitary, of a purplish brown colour, and placed upon long sheathed jointed peduncles, which rise from the lower articulations of the stem: the corolla is

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tubular, irregular; at the base distended into a globular figure, at the middle contracted and twisted, at the extremity spreading, and of a triangular form: it has no filaments, but six antheræ, which are attached to the under side of the stigma: the germen is oblong, angular, and placed below the corolla: the style is extremely short: the stigma is roundish, and divided into six parts: the capsule is hexagonal, separated into six cells, which contain several small flat seeds. It is a native of Virginia, and flowers in August.

The first account we have of Serpentaria is that given in Johnson's edition of Gerard, in which we are told that it was brought from Virginia, and grew in the garden of Mr. John Tradescant, of South Lambeth, in 1632. But Johnson evidently confounds the Serpentaria with the Pistolochia cretica of Clusius. In 1635, Dr. J. Cornutus published at Paris, Canadensium plantarum, aliarumque nondum editarum, Historia, wherein the Serpentaria is noticed under the name of Radix Snagroel Nothæ Angliæ, and highly extolled as an effectual remedy for the bites of the most poisonous serpents.*

Plukenet, whose botanical knowledge of this plant will not be doubted, informed Dale, that the roots of three different species of Aristolochia were sent to Europe for those of snake-root;* but though this might have happened a century ago, at present the

* "Missa quoque est ad me ex notha Anglia, radix quam Serpentariæ vocant, vernacule Snagroel cum hac inscriptione. Hæc radix alexiterium præsentissimum est, contra morsum serpentis ingentis pernitiosissimique in notha Anglia, cujus morsus intra duodecim horas interficit, nisi hujus radicis sumatur portio, qua sumpta nullus unquam auditus est periclitari de vita." p. 214.

* "Tres radices sub hoc nomine in officinis nostris veniunt, ut nos monuit eruditissimus ille Botanicus *Leonard Plukenetius*, M. D. in literis ad me datis, viz. 1. Aristolochia polyrrhizos, auriculatis foliis Virginiana. *Pluk. Phytog. Tab.* 78. *Almag.* 50. *Tourn. Inst.* 162. *&c.* 2. Aristolochia Violæ fruticosæ foliis Virginiana, cujus radix Serpentaria dicitur. *Pluk. Phytog. T.* 15. *Almag.* 50. *&c.* 3. Aristolochia Pistolochia, seu Serpentaria Virginiana, caule nodoso." This last is the plant we have figured. See Dale, *Pharmacol. p.* 194.

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practice appears to be no longer continued, for we have carefully examined several parcels of snake-root, without discovering these roots intermixed with those of the others referred to by Dale. We may notice however, that among these roots, some specimens of the whole plant were found, which differed from the annexed figure, having lance-shaped leaves. And this variety of Serpentaria seems to accord with that noticed by Alston, who says, "the dried specimen I have of the whole plant, brought directly from America by Mr. Richard Lightbody, surgeon, agrees with none of them; (meaning the three mentioned by Dale) the leaves no way resembling a heart at the footstalk; being there all roundish, or obtusely pointed."[b] The plant, from which the present figure was designed, is now growing in the Royal Botanic Garden at Kew, where it was introduced by Mr. William Young about the year 1770.[c]

"Snake-root has an aromatic smell, approaching to that of valerian, but more agreeable, and a warm bitterish pungent taste, which is not easily concealed or overpowered by a large admixture of other materials. It gives out its active matter both to water and rectified spirit, and tinges the former of a deep brown, the latter of an orange colour. Greatest part of its smell and flavour is carried off in evaporation or distillation by both menstrua: along with water there arises, if the quantity of the root submitted to the operation be large, a small portion of pale-coloured essential oil, of a considerable smell, but no very strong taste, greatest part of the camphorated pungency, as well as bitterness of the root, remaining in the inspissated extract. The spirituous extract is stronger than the watery: not so much from its having lost less in the evaporation, as from its containing the active parts of the root concentrated into a smaller volume; its quantity amounting only to about one-half of that of the other."[d]

The root, as we have already observed, was first recommended as

[b] *M. M. vol. i. p.* 521.

[c] We had this information from Mr. Aiton, who desires us to say, that, by mistake, this plant was passed unnoticed in the *Hort. Kew.*

[d] *Lewis, M. M. p.* 602.

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a medicine of extraordinary power in counteracting the poisonous effects of the bites of serpents, and it has since been much employed in fevers, particularly those of the malignant kind: a practice which seems founded on a supposition that the morbific matter of these fevers is somewhat analogous to the poison of serpents, and that its influence upon the human system might be obviated by the same means: hence Serpentaria has been considered the most powerful of those medicines termed alexipharmics. Modern physicians however have exploded this theory of antidotes, and the alexiterials and theriacas so industriously studied ever since the first ages of Greece, are now wholly disregarded.

Serpentaria is thought to possess tonic and antiseptic virtues, and is generally admitted to be a powerful stimulant and diaphoretic; and in some fevers where these effects are required, both this and contrayerva have been found very useful medicines, as abundantly appears from the experience of Huxham, Pringle, Hillary, Lysons, and others: yet it may be remarked, that by some of these authors this root has been employed too indiscriminately, for there seems to us some inconsistency in the practice of bleeding and giving snake-root in the same fever.

It is thought by many, that peruvian bark and wine may in every case supersede the use of Serpentaria;[e] but this opinion is also liable to exceptions, as a mixed state of fever has been frequently observed to prevail, in which the bark has proved hurtful, though this root has evidently had a good effect; and even in intermittent fevers the bark has been found more efficacious when joined with Serpentaria than when given alone;[f] and this has been also the case in continued fevers. The dose of snake-root is usually from ten to thirty grains in substance, and to a dram or two in infusion. A tinctura serpentariæ is directed both in the London and Edinburgh Pharmacopœias.

[e] In cases marked with progressive signs of debility and putridity, there cannot be a doubt but that the bark, wine, and a suitable application of cold, are the remedies chiefly to be trusted; but by admitting this, we are not to reject Serpentaria as utterly useless in all fevers.

[f] Vide Lysons, *Practical Essays upon intermitting fevers, p.* 13. *seq.*

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ARISTOLOCHIA LONGA. LONG-ROOTED BIRTHWORT.

SYNONYMA. Aristolochia. *Pharm. Edinb.* Aristolochia longa. *Clus. Hist. ii. p. 70. J. Bauh. Hist. iii. p. 560. Gerard. Emac. p. 846. Raii Hist. p. 762.* Aristolochia longa vera. *Bauh. Pin. p. 307. Park. Theat. p. 291. Tourn. Inst. p. 162. Miller's Fig. tab. 61.*

Sp. Ch. A. fol. cordatis petiolatis integerrimis obtusiusculis, caule infirmo, flor. solitariis.

THE root is perennial, long, tapering, branched, externally wrinkled and brown, internally yellowish: the stems are slender, round, branched, trailing, and usually exceed a foot in length: the leaves are heart-shaped, obtuse, entire, veined, of a pale green colour, and placed alternately upon round footstalks, which are about the length of the leaves: the flowers are solitary, and stand upon peduncles, which arise close to the leaf-stalks: the corolla forms a more regular tube than that of the Serpentaria, and is tongue-shaped at the extremity: the other parts of fructification are similar to those described of Serpentaria. It is a native of the South of Europe, and flowers from June till October.

The medicinal character of Aristolochia was formerly in great repute, and physicians very generally employed various species of the plant. Those received into our pharmacopœias were, 1. Aristolochia longa. 2. A. rotunda. 3. A. tenuis or clematitis of Linnæus. But the roots of these plants have for a long time been gradually falling into disuse, and at present, we believe, are rarely if ever prescribed: they are all expunged from the Mat. Med. of the London Pharmacopœia, but in that of the Edinburgh the last species is still retained, and therefore, according to our plan, it might have been figured here; but as these different species are generally allowed to be similar in their medicinal qualities, we trust

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that the first, which is the most rare and curious, will be found the most acceptable to our readers.

All the Birthwort roots have somewhat of an aromatic smell, and a warm bitterish taste. That of the long and round species, on first being chewed, scarcely discover any taste, but in a little time prove nauseously bitter, accompanied with a slight degree of pungency. "They give out their virtue, by infusion, both to spirituous and watery menstrua; to the first most perfectly. In distillation, pure spirit brings over little or nothing: with water there arises, at least from the slender-rooted sort, a small portion of essential oil, possessing the smell and flavour of the roots."[a]

The virtues which the ancients ascribed to Aristolochia were very considerable, and it was consequently employed in various diseases, particularly those thought to proceed from obstructions,[b] more especially of the uterine system:[c] hence the name Aristolochia is said to have arisen from its supposed emmenagogue powers.[d] And as a warm stimulating medicine, Dr. Cullen tells us[e] he found it useful in some cases of retention and chlorosis, but never in cases of suppression. Aristolochia has also been long very generally commended as a remedy for the gout, and it is the first ingredient in the Portland powder,[f] which has been much celebrated for the cure of this disease. It appears however that the long continued use of this powder, which is necessary for preventing the return of arthritic paroxysms, seldom fails to superinduce a premature

[a] Lewis, *M. M. p.* 112.

[b] Fernelius *Method. Med. Lib.* 6. *cap.* 12. *p.* 163.

[c] Hippocr. *De nat. muliebri. p.* 572. *Oper. Fœsii.*

[d] Ab ἄριστος & λοχεια. It has also been derived from Aristolochius, who is said to have first discovered its virtues. [e] See *Mat. Med. vol. ii. p.* 83.

[f] The powder is thus prepared: —— ℞ Aristol. rotund. gentian. summit. et fol. chamædr. chamæpit. centaur. min. ℥ ß p. æ. f. pulvis. A dram of this powder is directed to be taken every morning (jejuno ventriculo) for the space of three months, when the dose is to be diminished to three quarters of a dram for the next three months, and afterwards continued for six months in doses of half a dram, which, during the second year is to be taken every other morning.

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senile state of body, and to lay a foundation for more fatal diseases.[s] It is probable that the medicinal qualities of this plant are somewhat allied to those of its congener, the Serpentaria; but the sensible properties of the latter demonstrate it to be a more active medicine.

Aristolochia is given in substance from a scruple to two drams for a dose.

[s] Brunner, *De pancr. p.* 143. *Werlhoff. Cant. Med. Tract. i. p.* 88. See also Cullen's *First Lin.*

ARISTOLOCHIA CLEMATITIS. CLIMBING BIRTHWORT.

SYNONYMA. Aristolochia tenuis. *Pharm. Edinb. Geoff. ii.* 13. *Dale.* 194. *Alston. i.* 391. *Lewis.* 111. *Murray. i.* 356. *Bergius.* 719. *Edinb. New Disp.* 132. Aristolochia Clematitis recta. *Bauh. Pin.* 307. *Gerard. Emac.* 847. *Park. Theat.* 292. *Raii. Hist.* 762. *Hall. Stirp. Helv. n.* 1029. *Huds. Flor. Ang.* 394. *With. Bot. Arr.* 1003. *Mill. Illust. Eng. Bot.* 398.

Sp. Ch. A. foliis cordatis, caule erecto, floribus axillaribus confertis.

ROOT perennial, cylindrical, long, slender, creeping, fibrous. Stalks simple, slender, striated, two feet in height, round, smooth, in a somewhat zigzag direction. Leaves on footstalks, alternate, smooth, heart-shaped, blunt, of a shining bright green on the upper side, beneath veined. Flowers numerous, at the axillæ of the leaves of a greenish yellow. Calyx none. Corolla monopetalous, tubular, tube nearly cylindrical, at the base round, at the mouth wider, and extended downwards into a long tongue. Filaments none. Antheræ six, growing underneath the stigma. Germen oblong, angular, placed below the corolla. Style very short. Stigma roundish, divided into six portions. Capsule hexagonal, six-celled. Seeds numerous, small, flattish.

It is a native of this country, growing in woods and hedges, and producing its flowers from July till September.

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Various species of Aristolochia were formerly included in the Materia Medica, as noticed in the first part of this work; but the Clematitis here figured is the only species still retained in the Edinburgh Pharmacopœia, and therefore ought to have superseded the A. longa, of which a plate is given at page 157.

The root, which is the part medicinally used, has a somewhat aromatic smell, and a warm bitterish taste.

Not only writers on the Materia Medica, but most authors on the practice of medicine, from the remotest times, have ascribed many virtues to the roots of Aristolochia, which it would be useless here to enumerate. The qualities for which they have been chiefly esteemed are sufficiently noticed in the following extract from Dr. Cullen:—

"Which of the species of Aristolochia are to be preferred I cannot "determine, and believe the difference between the rotunda, longa, "and tenuis, is not considerable, though the latter seems now to be "preferred by both the Colleges of London and Edinburgh. They "are all of them considerably bitter, with more acrimony than in "any other of the bitters commonly employed. Its name seems to "have arisen from the supposition of its emmenagogue virtues, "and in some cases of retention and chlorosis, as a warm and "stimulating medicine, I have found it useful; but in cases of "suppression I never found it of any use: and the commendation "of it by the ancients in promoting the lochia, facilitating birth, &c. "is very ill founded. The Aristolochia has been long commended "as a cure for the gout. It makes a considerable part of the "Portland powder,* and has often been employed by itself in the "same manner as that powder, to be taken every day for a length "of time."[a]

But Dr. Cullen thinks with Werlhoff,[b] that though it may prevent the recurrence of the gouty paroxyms, yet the long continued use of such medicines is extremely hurtful, and commonly brings on a general state of disease more fatal than the original distemper.

* For the composition of this powder, see *p.* 158.

[a] *M. M. ii.* 83.

[b] See *Cautiones Medicæ Ed. Wickman. p.* 346.

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SMILAX SARSAPARILLA. SARSAPARILLA SMILAX.

SYNONYMA. Sarsaparilla. *Pharm. Lond. & Edinb.* Smilax aspera peruviana sive Sarsaparilla. *Bauh. Pin. p.* 296. *Park. Theat. p.* 173. *Raii Hist. p.* 656. *Gerard. Emac. p.* 856. Smilax caule angulato aculeato, foliis ovatis acutis inermibus. *Roy. Lugdb. p.* 228. Smilax viticulis asperis virginiana, folio hederaceo leni Zarga nobilissima. *Pluck. Phytogr. tab.* 111. *f.* 2.

Class Dioecia. *Ord.* Hexandria. *Lin. Gen. Plant.* 1120.

Ess. Gen. Ch. *Masc. Cal.* 6-phyllus. *Cor.* 0.
Fem. Cal. 6-phyllus. *Cor.* 0. *Styli* 3. *Bacca* 3-locularis. *Sem.* 2.

Sp. Ch. S. caule aculeato angulato, foliis inermibus ovatis retuso-mucronatis trinerviis.

THE root is perennial, divided into several branches, which are somewhat thicker than a goose quill, straight, externally brown, internally white, and three or four feet in length: the stalks are shrubby, long, slender, scandent, or trailing, angular, and beset with spines: the leaves are ovate, without spines, pointed, three-nerved, and stand alternately upon footstalks, at the base of which proceed long tendrils: the flowers are male and female on different plants, lateral, and usually stand three or four together upon a common peduncle: the calyx of the male flower is bell-shaped, divided into six segments, which are oblong, spreading, and reflexed at their points: the filaments are six, simple, and furnished with oblong antheræ: the calyx of the female flower is similar to that of the male: there is no corolla, unless the calyx be considered as such: the germen is ovate, and supports three minute styles, furnished with oblong reflexed hairy stigmata: the fruit is a round three-celled berry, containing two globular seeds.

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This plant is a native of America, and flowers in July and August. According to Mr. Aiton it was first cultivated in this country by Mr. Forster in 1691.[a]

Though this is the plant which is considered by Linnæus as furnishing the officinal Sarsaparilla, yet there are other writers who contend that this medicine is the root of the Smilax aspera L. which is said to correspond with the Sarsaparilla in every respect.[b] Sir William Fordyce, who has investigated the subject, says, "Prosper Alpinus has put it beyond all doubt, by the appearance of the smilax aspera, which he found in soft grounds in the island of Zant, (Zacynthus) that Europe, and the Grecian islands in particular, furnish the true Sarsaparilla, or *Smilax aspera peruviana dicta* of C. Bauhine."[c] But this synonym is referred to the Smilax Sarsaparilla by Linnæus, whose authority we have followed, along with Murray and Bergius, in preference to that of Alpinus. Besides it may be remarked, that in Spain, Italy, and other parts of Europe, where the Smilax aspera grows in abundance, the American Sarsaparilla is still employed, and imported at a great expence. It is probable however that these two species of the same genus, and of the same subdivision of *caule aculeato, angulato,* may have roots of similar appearance and properties: we have already noticed that not only different species, but even different genera in some instances, produce the same drug.

"This root has a farinaceous somewhat bitterish taste, and no smell. To water it communicates a reddish brown, to rectified spirit a yellowish red tincture, but gives no considerable taste to either menstruum. An extract, obtained by inspissating the spirituous tincture, has a weak somewhat nauseous balsamic bitterness, which is followed by a slight but durable pungency. The watery extract is much weaker, and in larger quantity."[d]

Sarsaparilla was more than two centuries ago introduced into

[a] Vide *Hort. Kew.*

[b] See *P. Alpinus Plant. Ægypt. p.* 136. Also Fallopius, Amatus Lusitanus, Guilandinus, Tobias Aldinus, Monardes, &c. who all either think it the same, or of equal efficacy.

[c] See *Med. Obs. & Inq. vol. i. p.* 173. [d] *Lewis M. M. p.* 586.

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Spain [e] as an undoubted specific in syphilitic disorders, and was also celebrated as a medicine in some other diseases of the chronic kind. But whether it was owing to a difference of climate, or other causes, European practitioners soon found that it by no means answered the character which it had acquired in the Spanish West Indies, and therefore it became very much neglected. Many physicians however still consider the Sarsaparilla to be a medicine of much efficacy; and though they admit that by the use of this root alone we are not to expect a cure of the lues venerea, yet they assert that when it is given along with mercury, the disease is much sooner subdued; and that ulcers, nodes, and other symptoms of this disorder, which resisted the effects of repeated salivations, have afterwards disappeared by the continued use of Sarsaparilla. In proof of this, we find several cases related by the late Sir William Fordyce:[*] but it may be remarked, that ulcers, and other complaints, which continue after a properly conducted course of mercury, are often rather to be considered as the vestiges of the lues than the actual disease, and consequently any other medicine possessing no antivenereal power, but improving the general habit of body, might be employed with equal success. Admitting this, however, is not denying the utility of Sarsaparilla, which has been decidedly done by a late ingenious professor.[f] It is in frequent use at most of the London hospitals, and we have known patients, after the use of mercury, much sooner restored to health by this root than in our opinion could have been accomplished by any other medicine with which we are acquainted, especially when employed in powder.

This root is also recommended in rheumatic affections, scrophula, and cutaneous complaints, or where an acrimony of the fluids prevail. It may be given in decoction or powder, and should be continued in large doses for a considerable time.

[e] Bauhine states its first introduction into Spain to be about the year 1573. But Monardes informs us, that it was brought from New Spain to Madrid twenty or thirty years before this time. The word Sarsaparilla is of Spanish origin. "Zarsa siquidem Hispanis rubrum; parra autem vitem, & parilla viticulam significat." — *C. Bauh. l. c.* [*] *L. c.* [f] *Dr. Cullen.*

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SMILAX CHINA. CHINESE SMILAX.

SYNONYMA. *China* (radix). *Pharm. Geoff. V. 2. p. 30.* *Dale.* 167. *Alston. i.* 409. *Lewis.* 226. *Edinb. New Dispens.* 170. *Murray. i.* 339. *Bergius* 803. China vulgaris off. *Ger. Emac.* 1618. *Bauh. Pin.* 296. *Park. Theat.* 1578. *Ray. Hist.* 657. Smilax minus spinosa, fructu rubicundo, radice virtuosa China dicta. *Kæmpf. Amœn.* 781. *t.* 782. Conf. Sam. Gottl. Gmelin's *Reise durch Russland. T. iii. p.* 32. *t.* 36.

Sp. Ch. S. caule aculeato teretiusculo, fol. inermibus ovato-cordatis quinquenerviis.

ROOT perennial, ligneous, beset with irregular knobs; externally of a reddish brown colour, internally paler. Stems long, roundish, slender, jointed, woody, prickly, climbing, branched, furnished with claspers. Leaves smooth, ovate, or heart-shaped, pointed, five nerved, placed on footstalks. Flowers male and female on different plants, in clusters, of a yellowish white, upon a slender common footstalk, arising at the axillæ of the leaves. The calyx of the male flower is divided into six leafits, which are oblong, reflexed, and appear to occupy the place of the corolla, which is wanting. Filaments six, simple, furnished with oblong antheræ. The female flower differs from the male, in having no stamina, but is supplied with an ovate germen, supporting three minute styles, terminated by oblong reflexed downy stigmata. Fruit a small round berry, of three cells; when ripe of a red colour, and contains two round seeds.

This species of Smilax is tolerably well described by Kæmpfer and Rumphius, but still more fully by Gmelin. It is a much taller shrub than the S. Sarsaparilla, and grows to the greatest perfection in China, Japan, and in some parts of Persia, It is also a native of Jamaica, but the occidental species has been accounted less effica-

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cious than the oriental. Mr. Aiton informs us, that it was first cultivated in Britain by Miller: it seems however to be a tender plant; and is rarely brought to flower in this country, even when placed in the best stoves, and under the direction of the most scientific gardeners.

According to Lewis, "two sorts of the roots are common in the shops, an oriental, and occidental; the first, which is accounted the best, is considerably paler coloured, and harder than the other. Of either kind, such should be chosen, as is fresh and heavy, and which, when cut, exhibits a close smooth glossy surface."

"These roots have scarcely any smell, or particular taste; when fresh they are said to be somewhat acrid, but as brought to us they discover, even when long chewed, no other than a slight unctuosity in the mouth. Boiled in water they impart a reddish colour, and a kind of vapid softness: the decoction, inspissated, yields an unctuous farinaceous almost insipid mass, amounting to upwards of half the weight of the root." [a]

About the year 1535 this root was first brought to Europe with the character of being an incomparable medicine for the cure of the venereal disease.[b] For this purpose it was given in the form of a decoction, of which a large cupful was ordered to be made hot, and taken by the patient every morning while in bed, in order to produce a diaphoretic effect for two or three hours.

This, and the occasional use of purgatives, was to be pursued for twenty-four days, after which the decoction was to be used as a common drink.[c]

This root was also recommended in many other disorders, especially those of a chronic and inveterate kind, as some cutaneous diseases, obstructions, rheumatisms, &c. But whatever may have been the opinion formerly entertained of the efficacy of China root,

[a] Lewis. *l. c.*

[b] Thevet. *Cosmogr. univers. L.* 11. *c.* 25.

[c] Vesalius. *Epist. de rad. chinæ in Aphor. p.* 598. *&c.* Astruc. *de morb. ven. p.* 112.

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physicians, at this time, agree in considering it as a very inert substance, and therefore it is rarely employed. Like the sarsaparilla, by which it has been superseded, it contains a considerable share of bland nutritive matter, and appears to us not less adapted to the auxilliary purposes of medicine.

RUSCUS ACULEATUS. BUTCHER's BROOM, or KNEE HOLLY.

SYNONYMA. Ruscus. *Pharm. Geoff.* *Dale.* 169. *Alston. t.* 386. *Lewis.* 546. *Murray. i. p.* 341. *Bergius.* 816. *Edinb. New Dispens.* 267. *Bauh. Pin.* 470. *Ger. Emac.* 907. *Park. Theat.* 253. *Raii. Hist.* 664. *Synop.* 262. *Hudson. Flor. Ang.* 437. *Haller. Hist. Stirp. Helv. n.* 1238. *With. Bot. Arr.* 1132. *Miller. Illust. t.* 155. *Eng. Bot.* 560.

Dioecia Syngenesia. *Lin. Gen. Plant.* 1139.

Gen. Ch. *Masc.* *Cal.* 6-phyllus. *Cor.* 0. *Nectarium* centrale, ovatum, apice perforatum.

Fem. Calyx, Corolla, et *Nectarium* maris. *Stylus* 1. *Bacca* 3-locularis. *Sem.* 2.

Sp. Ch. R. foliis supra floriferis nudis.

A SMALL evergreen shrub, seldom much exceeding a foot in height. Stalk strong, smooth, channelled. Leaves floriferous, sessile, or on very short footstalks, ovate, rigid, sharply pointed,* entire, marked with numerous parellel veins. Flowers male and female on

* Hence Virgil says, "Horridior rusco." Ec. 7. V. 41.
And again
——— aspera rusci
Vimina per silvam, ———

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different plants, solitary, appearing on the upper disc of the leaves. Calyx of the male flower composed of six small oval spreading leaves, of a yellowish green. Corolla none. Nectarium egg-shaped, inflated, upright, purple, open at the rim, of the length of the calyx. Filaments none. Antheræ three, expanding, uniting at the base, placed at the mouth of the nectarium. In the female flower the germen is oblong, enclosed in the nectarium, supporting a cylindrical style, supplied with a blunt stigma. Fruit a three-celled red berry, containing two globular seeds.

It usually grows in woods and thickets, flowering in March and April.

The root, which is somewhat thick, knotty, and furnished with long fibres, externally brown, internally white, and of a bitterish taste, has been recommended as an aperient and diuretic in dropsies, urinary obstructions, and nephritic cases. Hence it has been termed one of the five greater aperient roots.

It is manifestly the μυρσινη αγρια of Dioscorides,[b] who speaks highly of its deobstruent and diuretic powers; and Riverius relates a case of dropsy successfully treated by a decoction of the roots of Ruscus; but at present this plant is very rarely, if ever, employed in medicine.

[b] *Lib.* 4. *c.* 146.

CISSAMPELOS PAREIRA. PAREIRA BRAVA CISSAMPELOS.

SYNONYMA. Pareira brava. *Pharm. Lond.* Clematis baccifera glabra et villosa, rotundo & umbelicato folio. *Plumier, Plantes de l'Amer.* 78. *t.* 93. *Sloane's Jamaica, vol. i. p.* 200. *Cat.* 85. Caapeba folio orbiculari umbelicato & tomentoso. *Plum. Gen.* 33. Cissampelos scandens, foliis peltatis orbiculato-cordatis villosis; floribus masculinis racemosis, femininis spicatis, spicis foliolatis. *Browne's Jamaica, p.* 357.

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Class Dioecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1138.

Ess. Gen. Ch. *Masc. Cal.* 4-phyllus. *Cor.* 0. *Nectarium* rotatum. *Stam.* 4: filamentis connatis.

Fem. Cal. monophyllus, ligulato-subrotundus. *Cor.* 0. *Styli* 3. *Bacca* 1-sperma.

Sp. Ch. C. foliis peltatis cordatis emarginatis.

THE root is perennial, long, thick, woody, composed of distinct fibres, of a dull yellowish hue, and covered with furrowed bark of a brown colour: the stalks are numerous, shrubby, slender, very long, covered with a whitish bark, and climb round the neighbouring trees for support:[a] the leaves are roundish, indented at the top, about an inch and a half long, two inches broad, entire, covered with soft downy hairs,[b] and hang upon round simple downy footstalks, which are inserted into the back of the leaf: the flowers are extremely minute, of a greenish colour, placed in clusters upon long axillary spikes, and are male and female in different plants: the calyx of the male flower is divided into four small oval segments: it has no corolla, but the nectary is wheel-shaped and membranous: the filaments are four, very small, united, and furnished with broad flat antheræ: of the female flower the calyx is strap-shaped or ligulated: the germen is roundish, and supports three short styles, furnished with pointed stigmata: the fruit is a small one-celled berry, containing a roundish rough compressed seed. It is a native of South America and the West Indies.

The plant, which we have here represented, was drawn from a dried specimen in the possession of Mr. Aiton at Kew, to which a separate display of the parts of fructification was intended to have

[a] In Jamaica "this plant grows in great plenty, commonly amongst the ebony trees, climbing about them." *Long's Jam. vol. iii. p.* 760.

[b] From this villous covering of the leaf, it is usually called *Velvet leaf*.

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been introduced, but from their extreme minuteness and dryness it was found to be impracticable: the general appearance of the plant is however so characteristic as in some measure to compensate for this deficiency.

The medicinal use of the roots of this plant was first learned from the Brazilians, who infused them in water, which they drank freely in all obstructions in the urinary passages;[c] and towards the end of the last century these roots were brought into Europe by the Portuguese, who recommended them to physicians as the most effectual remedy hitherto discovered in all calculous and gravelly complaints; and various accounts of their efficacy were soon after published.[d] This root "has no remarkable smell; but to the taste it manifests a notable sweetness of the liquorice kind, together with a considerable bitterness, and a slight roughness covered by the sweet matter. It gives out great part both of the bitter and sweet substance to watery and spirituous menstrua: in evaporating the watery decoction a considerable quantity of resinous matter separates, which does not mingle with the remaining extract, nor dissolve in water, but is readily taken up by spirit; whence spirit appears to be the most perfect dissolvent of its active parts. Both the spirituous tincture and extract are in taste stronger than the watery."[e]

The facts adduced on the utility of radix pareiræ bravæ in nephritic and calculous cases, are principally those by Helvetius,

[c] According to Browne, it is still used with this intention by the negroes at Jamaica. Vide l. c.

[d] "Parisios per Regis Gallise legatum, *Amelot*, a. 1688. pervenit (Hist. de l'Acad. des Scien. de Paris, 1710, p. 56.) tumque varii medici Galli ejus usum fecere, interque nos *Helvetius*, qui in *Traité des maladies les plus frequentes et des remedes specifiques*, ejus mentionem aliquoties honorificam injicit." In Germania nondum initio seculi famam excitaverat, sed multum ibidem ad ejusdem existimationem contulit Lochnerus (*Schediasma de Pareira brava Norimb.* 1719. *Ed.* 2. *in* 4.) casibus potius distincte prolatis, quam luxuriantis eruditionis ornamentis, quibus obvelantur." Vide *Murray Ap. Med. v. i.* 345.

[e] *Lewis Mat. Med. p.* 480.

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Geoffroy, and Lochner:[f] the first seems to think that it acts as a lithontriptic, but Geoffroy attributes its virtues to its power of dissolving the indurated mucus to which the sabulous matter adheres. It has also been recommended in ischuria, ulcers of the bladder, fluor albus, rheumatism, jaundice, asthma, and some other chronic diseases. The accounts given of the successful employment of this root by the French writers, induced physicians to try its effects in this country; but we find no remarkable instances of its efficacy recorded by British practitioners; and as a proof of its being fallen into disrepute, the Edinburgh College has expunged it from the Materia Medica.[g] The dose of the powdered root is from one scruple to two. Geoffroy directs two or three drams of the root to be bruised and boiled in a pint and a half of water till only a pint remains, which is to be divided into three doses.

[f] *Lewis. Mat. Med.* l. c. in note (t)

[g] And Bergius says, "Certe vidi ego calculosos, arthriticos & rheumaticos plures, qui satis diu usum ejus absque successu continuarunt." *Mat. Med. p.* 815.

ASARUM EUROPÆUM. COMMON ASARABACCA.

SYNONYMA. Asarum. *Pharm. Lond. & Edinb. Bauh. Pin. p.* 197. *Gerard. Emac. p.* 836. *J. Bauh. Hist. vol. iii. p.* 548. *Ray Hist. p.* 207. *Synop. p.* 158. Asarum vulgare. *Park. Theat. p.* 266. Asarum foliis reniformibus subhirsutis. *Hall. Stirp. Helv. n.* 1547. Asarum Europæum. *Withering. Bot. Arrang. p.* 488. *Smith Brit.* 509. *Flor. Dan.* 633.

Class Dodecandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 589.

Ess. Gen. Ch. *Cal.* 3-s. 4-fidus, germini insidens. *Cor.* 0. *Caps.* coriacea, coronata.

Sp. Ch. A. foliis reniformibus obtusis binis.

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THE root is perennial, strong, divided and fibrous: it has no stalk, so that the leaves rise immediately from the root; they grow in pairs, are kidney-shaped, large, of a deep shining green colour, and stand upon long footstalks: the flowers are large, bell-shaped, of a dirty purple colour, and placed singly upon short peduncles at the base of the footstalks: the calyx supplies the place of a corolla, and is large, bell-shaped, divided at the mouth into three or four pointed segments, which are of a brownish purple colour, but towards the base it is greenish: the filaments are twelve, about half the length of the calyx, and furnished with oblong antheræ, which are attached to the sides of the filaments: from the germen arises a simple style, crowned with a stigma, divided into six radiated reflected parts: the capsule is of a leathery texture, and divided into six cells, which contain several small oblong seeds. It is a native of England,[a] and flowers in May.

It appears from Pliny,[b] that by the Ancients the name of this plant was frequently confounded with that of nardus and baccharis; and the English name Asarabacca has been derived from the words asarum and baccharis: it is evident however that the plants, now known by these names, differ very considerably both in their appearance and effects.

"The leaves and roots of Asarum have a moderately strong and not very unpleasant smell, somewhat resembling that of valerian or nard,† and a nauseous bitterish acrid taste:"[c] they seem to agree also in their medicinal effects, both proving strongly emetic and cathartic: the root has been observed to excite vomiting so constantly, that it is proposed by Linnæus as a substitute for ipecacuanha;[d] and Dr. Cullen says, "the root dried only so much as to

[a] It is extremely scarce. Ray observes it is found in some woods in Lancashire. l. c.

[b] *His. Nat. L. xii. c.* 13. *et L. xxi. cap.* 6.

Asaron, ab *α priv.* & *σαιρω orno*, quoniam in coronis non addatur.

† Nardus Celtica L.

[c] *Lewis M. M. p.* 122.

[d] *Am. Acad. T.* 7. *p.* 307. where it is also observed, that when exhibited in a state of *very fine powder*, it uniformly acts as an emetic, but when *coarsely powdered* it always passes the stomach and becomes cathartic.

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be powdered proves, in a moderate dose, a gentle emetic. It will commonly answer in doses of a scruple, sometimes in a less quantity," "and as we judge may be suited to many of the purposes of the ipecacuanha."[e] In small doses it is said to promote perspiration, urine, and the uterine flux.[f] Spirituous tinctures and watery infusions of the plant possess both its emetic and cathartic virtues, but it is said that by coction in water the emetic power is first destroyed, and afterwards the purgative.[g] At present Asarum is seldom given internally, as the evacuations expected from its use may be procured with more certainty and safety[h] by various other medicines, that it is now chiefly employed as an errhine or sternutatory, and is found to be the most useful and convenient in the Mat. Med. For this purpose the leaves, as being less acrid than the roots, are preferred by the College, and in moderate doses, not exceeding a few grains, snuffed up the nose several successive evenings, produce a pretty large watery discharge, which sometimes continues for several days together, by which headach, toothach, opthalmia, and some paralytic and soporific complaints, have been effectually relieved. It is the basis of the pulv. sternutatorius, or pulvis asari compositus.

[e] *Mat. Med. vol. ii. p.* 473.

[f] "Diureticum & emmenagogum insigne: unde Meretriculæ plus satis frequentant decoctum ejus, cum sentiunt se gravidas. Quò tenuiùs est tritum eò magis urinas movere, minus autem alvum ducere, creditur." *Ray Hist. p.* 208. [g] *Raii l. c.*

[h] Ante aliquot annos civis hujus loci, vir quadratus, difficulter mobilis, sumit, suasu aniculæ, pulverem asari foliorum & radicis ad integrum cochlear. Inde verò hypercatharsin patiebatur lethalem," &c. *Wedelius Amœnit. M. M. p.* 240. *& De Med. fac.*

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ORD. IX. STELLATÆ.

From *Stella*, a star where the leaves surround the stem like the radii of a circle.

RUBIA TINCTORUM. DIER's MADDER.

SYNONYMA. Rubia. *Pharm. Lond.* & *Edinb.* α Rubia sylvestris aspera. β Rubia tinctorum sativa. *Bauh. Pin. p.* 333. Rubia tinctorum. *Gerard. Emac. p.* 1118. Rubia major sativa. *Park. Theat. p.* 274. Rubia sylvestris monspessulana major. *J. Bauh. Hist. vol. iii. p.* 715. Rubia tinctorum. *Raii Hist. p.* 480. *Vide Hall. Stirp. Helv. n.* 708. Rubia foliis senis. *Miller's Dict.* Ερυθροδανον vel Ερευθεδανον *Græcorum.*

Class Tetrandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 127.

Ess. Gen. Ch. *Cor.* 1-petala, campanulata. *Baccæ* 2, monospermæ.

Sp. Ch. R. foliis annuis, caule aculeato. *Mant.* 330.

THE root is perennial, long, round, jointed, beset with small fibres, externally of a bright red colour, but towards the center yellowish: the stalks are quadrangular, slender, procumbent, jointed, four or five feet in length, and covered with rough short points, by which they adhere to the neighbouring plants for support: the leaves are elliptical, pointed, rough, ciliated, and are placed in whorls of four, five, or six together at the joints of the stem: the

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branches stand in pairs at the articulations of the stalk, and upon their various subdivisions produce small terminal flowers of a yellow colour: the calyx is divided at the mouth into four teeth: the corolla is small, bell-shaped, and cut at the extremity into four oval segments: the filaments are four, short, and support simple erect antheræ: the germen is double, and placed below the corolla: the style is slender, and at the top divides into two globular stigmata: the fruit consists of two round berries, each containing an oval seed, with a cavity at its smaller extremity. It is a native of the South of Europe, and flowers in June.

Madder is frequently mentioned by the Greek writers, who employed its roots with the same medicinal intentions for which they now are recommended by most of the modern writers on the Materia Medica. Our knowledge of the first cultivation of this plant in England is from Gerard;[a] and though an extensive cultivation of Madder in Britain seems to promise considerable advantage both to the planter and to the nation, yet we find that the great quantity of Madder roots used here by the Diers and Callico-printers, has been for many years almost wholly the growth and export of Holland.[b] Madder appears to differ from other substances used for the purpose of dying, in having the peculiar property* of tinging with a florid red colour not only the milk, urine, &c.[c] but even the bones of those animals which have fed upon it; a circumstance

[a] Vide *Hort. Kew.* [b] *Miller Dict.* in which is also given a full account of the cultivation of this plant. But we are happy to observe, that by the laudable endeavours of the *Society for the Encouragement of Arts*, &c. considerable quantities of English Madder have been produced, and found as good at least, if not better than any imported. *See Transactions, p.* 10. *vol. i.*

* Some other plants of the same natural order (*Stellatæ*) have also the effect of tinging the bones, as the Galium *Mollugo* and *Aparine*. Vide Guettard *Mem. de l'Ac. de Sc. a.* 1746 & 747. And the Valantia *cruciata*. *Böhmer Diss. de rad. rub. tinct. p.* 42.

[c] *Böhmer* also found the serum of the blood reddened by the Madder. *Diss. rad. rub. tinct. &c. p.* 13. And *Levret* observes, that it sometimes tinged the excretion by the skin. *Sur les Accouchemens, p.* 278.

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which was first noticed by Antonius Mizaldus,[d] but not known in England till Mr. Belchier published an account of a pig and a cock, whose bones became red by eating Madder mixed with their food;[e] since that time various experiments relating to this subject have been made, from which it appears that the colouring-matter of Madder affects the bones in a very short time, and that the most solid, or hardest, part of the bones first receives the red colour, which gradually extends, *ab externo*, through the whole osseous substance, while the animal continues to take the Madder; and if this root be alternately intermitted and employed for a sufficient length of time, and at proper intervals, the bones are found to be coloured in a correspondent number of concentric circles. According to Lewis, "the roots of Madder have a bitterish somewhat austere taste, and a slight smell not of the agreeable kind. They impart to water a dark red tincture, to rectified spirit, and to distilled oils, a bright red; both the watery and spirituous tinctures taste strongly of the Madder."[f]

Madder, by medicinal writers, has been considered as a deobstruent, detergent, and diuretic, and is chiefly used in the jaundice, dropsy, and other diseases supposed to proceed from visceral obstructions, particularly those of the liver and kidneys; and some modern authors have recommended it as an emmenagogue,[g] and in rickety affections.[h] With regard to its diuretic quality, for which there are many respectable authorities, Dr. Cullen asserts, that in many trials both for this and other purposes, such an effect is not constant, having never occurred to him. As a remedy for the jaundice, it has the authority of Sydenham, and was formerly an ingredient in the decoctum ad icteros of the Edin. Pharm. but as it seemed more adapted to the *fæces albidæ* than to the disease itself,

[d] *Memorab. ut. ac jucunda Cent.* 7. *Aph.* 91. *Lutet.* 1566.

[e] *Phil. Trans. vol.* 39. *p.* 287. *& p.* 299. See also *vol.* 41. Afterwards experiments were prosecuted by *Bazanus*, *Geoffroy*, *Du Hamel*, *Fougeroux*, *Bergius*, and others.

[f] *Mat. Med. p.* 546. [g] See *Home's Clinical Experiments*, *p.* 388. [h] *Levret. l. c.* and *Alii.*

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this decoction was expunged. That some French writers should prescribe Madder in a rickety state of the bones, appears a little surprising, as the brute animals, to which it was given, especially the younger, suffered considerable emaciation and prostration of strength from its effects. Its virtues, as an emmenagogue, rest principally on the authority of Dr. Home, who gave from a scruple to half a dram of the powder, or two ounces of the decoction, three or four times a day. But this medicine failed with Dr. Cullen, who also says, "I know of other practitioners in this country, who, after several ineffectual trials made with it, have now entirely deserted its use."[i]

[i] *Mat. Med. vol. ii. p. 39.*

GALIUM APARINE. CLEAVERS, or GOOSE GRASS.

SYNONYMA. Aparine. *Pharm. Murray. vi.* 24. *Dale.* 133. *Rutty.* 321. Aparine vulgaris. *Bauh. Pin.* 334. Aparine. *Ger. Emac.* 1122. *Park. Theat.* 567. *Ray. Syn.* 225. Galium caule serrato, foliis senis linearibus lanceolatis serratis, petiolis unifloris. *Hall. Hist. Stirp. Helv. n.* 723. Galium Aparine. *Scop. Fl. Carn. n.* 157. *Hudson. Flor. Ang.* 57. *Withering. Bot. Arr.* 157. *Lightfoot. Flor. Smith Brit.* 180. *Scot.* 117. *Flor. Dan. Icon.* 495. *Curt. Flor. Lond.*

Tetrandria Monogynia. *Lin. Gen. Plant.* 125.

Gen. Ch. *Cor.* 1-petala, plana. *Sem.* 2, subrotunda.

Sp. Ch. G. foliis octonis lanceolatis carinatis scabris retrorsum aculeatis, geniculis villosis, fructu hispido.

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ROOT branched, fibrous, annual. Stalk quadrangular, three or four feet in height, weak, climbing, jointed branched: angles beset with short prickles, which are bent backwards, and fasten hold of neighbouring plants. Leaves standing at the joints of the stalk six or eight together, lanceolate, narrow, finely pointed, on the upper side rough, with sharp prickles. Flowers small, white, on rough footstalks. Calyx none. Corolla very small, wheel-shaped, divided into four oval pointed segments. Filaments four, white, shorter than the corolla. Antheræ yellow. Germen below the corolla, double, rough. Styles swo, short. Stigmata globular. Fruit two dry roundish berries, slightly adhering together, covered with hooked prickles. Seeds solitary, kidney-shaped.

It is common in cultivated ground and hedges, producing its flowers from June till September.

This succulent plant is destitute of odour, but to the taste it is bitterish, and somewhat acrid. Dioscorides[a] speaks of an ointment made of the bruised herb, mixed with lard, as an useful application to discuss strumous swellings; and Gaspari,[b] an Italian, adopted a similar practice with great success. He also informs us, that a decoction of the plant, employed in the way of fomentation, was found to be very efficacious in swellings of the glands of the neck, which followed a certain epidemic at Verona. Dr. Cullen, however, relates that he tried the Aparine in some glandular indurations, but without deriving any advantage.[c]

It is said by Mayerne, that three ounces of the juice of the plant, taken twice a day in wine, were experienced to be an useful aperient and diuretic in incipient dropsies. But the character in which the Aparine has of late been chiefly esteemed, is that of an antiscorbutic; for this purpose, a tea-cupful of its expressed juice is to be taken every morning for nine or ten days. When the fresh plant cannot be procured, it may be used in a dried state as tea.[d]

[a] *M. M. Lib.* 3. *cap.* 104.

[b] See *Osservazioni Storiche, Mediche, &c.* 1731. *p.* 17. [c] *M. M. vol.* 2. *p.* 37.

[d] See *Med. & Philos. Commentaries, vol.* 5. *p.* 326. Also Edward's *Treatise on the Goose-grass, or Clivers, and its efficacy in the cure of the most inveterate Scurvy.*

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Other species of Galium have been used for the purposes of medicine, especially the G. verum, or yellow lady's bed-straw, the flowers of which have been recommended in hysteric and epileptic complaints. It has been asserted, that these flowers contain an acid, which coagulates milk; but neither Bergius, Cullen, nor Young, observed this effect from them, after repeated trials.

SPIGELIA MARILANDICA. PERENNIAL WORM-GRASS, Or, INDIAN PINK.

SYNONYMA. Spigelia. *Pharm. Lond. & Edinb.* Periclymeni virginiani flore coccineo planta marilandica, spica erecta, foliis conjugatis. *Catesby Carol. vol. ii. p.* 78. Lonicera *marilandica* spicis terminalibus, foliis ovato-oblongis acuminatis distinctis sessilibus. *Sp. Plant. p.* 249. Spigelia marilandica fol. ovatis oppositis spica secunda terminali. *Walter Flor. Carol. p.* 92. Vide *Mantiss. Lin. ii. p.* 338. *Ess. & Obs. Phys. & Lit. vol. iii. p.* 151. *Curt. Bot. Mag.* 80.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 209.

Ess. Gen. Ch. Cor. infundibulif. *Caps.* didyma, 2-locularis, polysperma.

Sp. Ch. S. caule tetragono, foliis omnibus oppositis.

THE root is perennial, unequal, simple, sends off many slender fibres, and grows in an horizontal direction: the stalk is simple, erect, smooth, obscurely quadrangular, of a purplish colour, and commonly rises above a foot in height: the leaves are ovate, sessile, somewhat undulated, entire, of a deep green colour, and stand in pairs upon the stem: the flowers are large, funnel-shaped, and terminate the stem in a spike: the calyx divides into five long

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narrow pointed smooth segments: the corolla is monopetalous, consisting of a long tube, gradually swelling towards the middle, of a bright purplish red colour, and divided at the mouth into five pointed segments, which are yellow on the inside: the five filaments are about the length of the tube, and crowned with halberd-shaped antheræ: the germen is small, ovate, placed above the insertion of the corolla, and supports a round style, which is longer than the corolla, furnished with a joint near its base, and bearded towards the extremity, which is supplied with an obtuse stigma; the capsule is double, two-celled, and contains many small angular plano-convex seeds. It is a native of America, and flowers in July and August.

Linnæus first supposed this plant to be a Lonicera, or Honeysuckle, but afterwards he ascertained its characters, and called it Spigelia, in honour of the botanist Spigelius, whose first work was published in 1606.*

Two species of Spigelia are now known to botanists, viz. S. Anthelmia and marilandica; they have both been used as anthelmintics; the effects of the former are noticed by Dr. Browne in the Gentleman's Magazine for the year 1751, and in his History of Jamaica;[a] also by Dr. Brocklesby,[b] and several foreign writers. But the accounts of the vermifuge virtues of Spigelia, given by Drs. Linning[c] and Garden,[d] from Charlestown, South Carolina, evidently refer to the latter species, which is here figured; and as the anthelmintic efficacy resides chiefly in the root of the plant, that of the Anthelmia, or Annual Spigelia, which is very small, must be incomparably less powerful than the root of the marilandica, which is perennial. Dr. Garden, in his first letter to Dr. Hope, which was written about the year 1763, says, "About forty years ago, the anthelmintic virtues "of the root of this plant were discovered by the Indians; since "which time it has been much used here by physicians, practitioners, "and planters; yet its true dose is not generally ascertained. I have

* Adriani Spigelii *in rem herbariam Isagoge*, Patavii.

[a] *P.* 156. [b] *Oec. & Med. Observations*, *p.* 282.

[c] See *Ess. & Observ. Physical & Literary*, *vol. i. p.* 386. [d] *L. c.*

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" given it in hundreds of cases, and have been very attentive to its " effects. I never found it do much service, except when it proved " gently purgative. Its purgative quality naturally led me to give " it in febrile diseases, which seemed to arise from viscidity in the " *primæ viæ;* and, in these cases, it succeeded to admiration, even " when the sick did not void worms.

" I have of late, previous to the use of the Indian Pink, given a " vomit, when the circumstances of the case permitted it; and I " have found this method answer so well, that I think a vomit should " never be omitted. I have known half a dram of this root purge " as briskly as the same quantity of rhubarb; at other times I have " known it, though given in large quantities, produce no effect " upon the belly: in such cases, it becomes necessary to add a grain " or two of sweet mercury, or some grains of rhubarb; but it is to " be observed, that the same happy effects did not follow its use in " this way, as when it was purgative without addition. The addition " however of the purgative renders its use safe, and removes all " danger of convulsions of the eyes,[e] although neither *ol. rutæ, sabinæ,* " or any other nervous substance, is given along with it. It is, in " general, safer to give it in large doses than in small; for, from the " latter more frequently the giddiness, dimness of the sight, and " convulsions, &c. follow; whereas, from large doses, I have not " known any other effect than its proving emetic or violently " cathartic. To a child of two years of age, who had been taking " ten grains of the root twice a-day, without having any other " effect than making her dull and giddy, I prescribed twenty-two " grains morning and evening, which purged her briskly, and " brought away five large worms.[f] After some months an increased

[e] This root, when taken in large doses, and not readily passing off by stool or vomiting, is observed not only to affect the head but in a peculiar way the muscles which move the eyes; an effect which is noticed both by Linning and Garden, and is to be removed by administering a cathartic.

[f] According to Linning, " thirty large worms, the *teretes*, were at once voided" by a Negro girl from the use of this root. *l. c.*

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"dose had the same good effects. I prefer the root to the other "parts of the plant, of which, when properly dried, I gave from "twelve to sixty or seventy grains in substance. In infusion it "may be given to the quantity of two, three, or four drams twice "a day. I have found that, by keeping, the plant loses its virtue "in part; for forty grains of the root which has not been gathered "above two months, will operate as strongly as sixty which has "been kept for fifteen months."[s]

In Dr. Garden's subsequent letters, addressed to Dr. Hope in the years 1764 and 1766, the efficacy of this root in worm cases is further confirmed, and he observes, that the root keeps better than he at first thought, having lately used it several years old with great success. In what he calls continued or remitting low worm fevers, he found its efficacy promoted by the addition of rad. sepentar. virg.

[s] As this plant seems to be received into the Materia Medica principally on the authority of Dr. Garden, we have judged it proper to give his account in his own words.

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ORD. X. CYMOSÆ.

(Κυμα, fœtus. Cyma, a sprout). In this order the flower is aggregate, having a receptacle divided into primary fastigiate peduncles proceeding from an universal centre; but the secondary peduncles are irregular, which distinguishes this order from the Umbellatæ.

COFFEA ARABICA. COFFEE TREE.

SYNONYMA. Euonymo similis ægyptiaca, fructu baccis lauri simili. *Bauh. Pin.* 498. Coffee frutex, ex cujus fructu fit potus. *Ray. Hist.* 1691. Bon. *Alpin. Pl. Ægypt.* 63. Jasminum arabicum, lauri folio, cujus semen apud nos Coffé dicitur. *Jussieu. Mem. de L'Acad. des Sc. de Paris.* 1713. *p.* 388. *t.* 7. Conf. Monogr. in *Linn. Amoen. Ac, T.* 6. *p.* 160. Also *Ellis. Histor. Account of Coffee.* 1774.

COFFEA (semen) *Pharm. Dale.* 317. *Alston. ii.* 274. *Murray. i.* 386. *Bergius.* 111. *Lewis.* 243. *Edinb. New Dispens.* 174.

Pentandria Monogynia. *Lin. Gen. Plant.* 230.

Gen. Ch. Cor. hypocrateriformis. *Stamina* supra tubum. *Bacca* infera disperma. *Sem.* arillata.

Sp. Ch. C. floribus quinquefidis dispermis.

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A TREE of low stature, seldom exceeding twelve feet in height, slender, at the upper part sending off long trailing branches: bark brown, and almost smooth. Leaves nearly elliptical, smooth, entire, pointed, waved, three or four inches in length, opposite, on short footstalks. Stipulæ in pairs, pointed. Flowers white, axillary, on short simple peduncles, or sessile, two or three together. Calyx very small, tubular, five-toothed. Corolla monopetalous, funnel-shaped, cut at the limb into five reflexed oval or lanceolate segments: tube long, narrow, almost cylindrical. Filaments five, tapering, inserted at the mouth of the tube: antheræ linear, incumbent, of the length of the filaments. Germen roundish. Style simple, longer than the stamina. Stigma cloven, reflexed. Fruit a round fleshy red berry, containing two seeds, invested by a cartilaginous arillus: the appearance of the seed is well known.

The Coffee tree is a native of Arabia Felix and Ethiopia, and was first noticed by Rauwolfius in 1573; but Alpinus, in 1591, was the first who described it. It was cultivated in Britain by Bishop Compton in 1696,[a] and is now to be found in many of the well stored hot-houses of this country. For the specimen of it here figured we are obliged to Dr. Lettsom, who possesses the best plant of this species which we have seen, and which was highly valued by its late owner Dr. John Fothergill.

The use of Coffee, or the seed of the fruit of this tree, appears to have originated in Ethiopia, but the practice of drinking it in Arabia was introduced from Persia by the Mufti of Aden in the fifteenth century. In 1554 its use first began at Constantinople. From whence it was gradually adopted in the western parts of Europe. At Marseilles it was begun in 1644. At Paris, if we except the family of Mons. Thevenot,[b] it was unknown till the arrival of the Turkish Ambassador, Soliman Aga, in 1669; and in 1672 the first coffee-house was established in Paris by an Armenian, named Pascal, but he met with little encouragement, and therefore

[a] Vide *Douglas. History of the Coffee tree. p.* 21.

[b] This gentleman had resided some time in the East, and returned to Paris in 1657.

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came to London, where this beverage had been previously introduced in the year 1652, when Mr. Edwards, a Turkey merchant, brought from that country a Greek servant, of the name of Pasqua, who understood the method of preparing coffee, and first sold it in London in a house which he kept for that purpose, in George-yard, Lombard-street. Eight years after this it contributed to the public revenue, by a duty of four-pence laid upon every gallon made and sold here.[c]

The general consumption of Coffee in Europe suggested the idea of cultivating it for the advantage of commerce; and in this view the Dutch took the lead, and first planted it at Batavia in 1690; and at Surinam in 1718. This example was followed by the French at Cayenne, and in Martinico; nor were our Colonies neglected, for in 1732 it was cultivated in Jamaica, and patronized by act of parliament.

But whether from mismanagement, or from causes unavoidable, it is a lamentable truth, that our colonial coffee is of less estimation than that of other states, and the Mocha coffee is superior to all others. We shall therefore present our readers with an account of the culture and management of Coffee, practised in Arabia Felix, and related by La Roque, who says, "that the Coffee tree is there "raised from seed, which they sow in nurseries, and plant them "out as they have occasion. They chuse for their plantations a "moist shady situation, on a small eminence, or at the foot of the "mountains, and take great care to conduct from the mountains "little rills of water, in small channels, to the roots of the trees; "for it is absolutely necessary that they should be constantly "watered, in order to produce and ripen the fruit. For that pur-"pose, when they remove or transplant the tree, they make a "trench three feet wide, and five feet deep, which they line or "cover with stones, that the water may the more readily sink deep "into the earth with which the trench is filled, in order to preserve "the moisture from evaporating. When they observe that there

[c] See *Ellis. l. c.*

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"is a good deal of fruit upon the tree, and that it is nearly ripe, "they turn off the water from the roots, to lessen that succulency "in the fruit which too much moisture would occasion. In places "much exposed to the south they plant their Coffee trees in regular "lines, sheltered by a kind of poplar tree, which extends its "branches on every side to a great distance, affording a necessary "shade when the heat of the sun is too intense. When they per- "ceive the fruit advanced to maturity, they spread cloths under "the trees, which they shake, and the ripe fruit readily drops off. "They afterwards spread the berries upon mats, and expose them "to the sun until they are perfectly dry: after which they break "the husk with large heavy rollers, made either with wood or "stone. When the Coffee is thus cleared of its husk, it is again "dried in the sun, and lastly winnowed with a large fan."[d]

Both the outer pulpy part of the berry, and the inner membrane immediately investing the seed, are prepared for use by the Arabians; the former is much esteemed, and constitutes the Coffee *à la Sultane*; the latter is chiefly employed by the common people, and sold under the name of *Kischer*.[e] The seeds used by us, and which by the Arabians are thought too heating, are principally imported into Europe from Yemen, where the Coffee is most abundantly cultivated; they are smaller than the other kinds produced in the Colonies, of a yellow hue, and more grateful in taste and odour. The manner of roasting and preparing Coffee for use is too well known to require being detailed here; we shall therefore proceed to consider its effects on the human body.

From various experiments instituted by Dr. Percival upon Coffee, he infers that this beverage "is slightly astringent and antiseptic; "that it moderates alimentary fermentation, and is powerfully seda- "tive. Its action upon the nervous system probably depends on "the oil it contains; which receives its flavour, and is rendered

[d] See *La Roque. Voyage de l'Arabie heureuse. p.* 285. of which we have followed Ellis's translation.

[e] *Braud, Niebuhr, Aublet, &c.*

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" mildly empyreumatic by the process of roasting. The medicinal " qualities of Coffee seem to be derived from the grateful sensation " which it produces in the stomach, and from the sedative powers " it exerts on the *vis vitæ*. Hence it assists digestion, and relieves " the head-ach; and is taken in large quantities with peculiar pro- " priety by the Turks and Arabians, because it counteracts the " narcotic effects of opium, to the use of which those nations are " much addicted. In delicate habits it often occasions watchfulness, " tremors, and many of those complaints which are denominated " nervous. It has been even suspected of producing palsies; and " from my own observation, I should apprehend not entirely with- " out foundation. Slare affirms that he became paralytic by the too " liberal use of Coffee, and that his disorder was removed by ab- " stinence from that liquor."[f]

Dr. Percival cites a letter from Sir John Pringle, who asserts that strong Coffee is the most powerful remedy, with which he is acquainted, in abating spasmodic asthma.

The late Dr. Fothergill has observed, that "it is a question often proposed to physicians, which is best Tea or Coffee?" The solution of this point would perhaps be a difficult one. We neither find the Chinese or Turks subjected to any such discriminating effects as to enable the faculty to say, with precision, that one is more injurious than the other; for my own part I leave it to the experience of individuals. Dr. F. recommends the Coffee to be made strong, and as much boiled milk to be added to it before it is taken from the fire as there is water; it is then suffered to settle, and drunk either with or without cream. This the Dr. substituted for tea, which was not quite favourable to his health.

The French custom of drinking Coffee immediately after dinner, is certainly much better than that which prevails with us of taking it at a late hour in the evening. For, from the observations of Dr. Percival, and indeed from the experience of mankind in general, this beverage very commonly suspends the inclination to sleep, and

[f] See *Essays, vol. ii,*

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therefore may protract the time of watchfulness beyond the usual hour of rest. By habit, however, these and other unfavourable effects both of Coffee and tea, are often subdued, though certain constitutions may suffer much in the struggle, and a morbid irritability of the nervous system has not unfrequently been the consequence.

The complaints said to have been produced by the frequent or excessive use of Coffee are head-achs, vertigo, tremors, imbecility, pimples on the face, weakened vision,[a] and according to professor Murray, apoplexy. It has been said that it produces or aggravates hysterical and hypochondriacal affections; and therefore Tissot[b] cautions literary and sedentary people against its use. It is also accused of favouring an hemorrhagic disposition, especially in feverish, choleric, plethoric, and emaciated constitutions.

How far these disorders were really caused by the use of Coffee, appears to admit of much doubt; and therefore until its ill effects are experienced, this catalogue of disorders ought not to alarm those who perceive no ill effects from its use. As an article of diet it is very generally drunk, and found, with very few exceptions, not only to be innocent but salubrious: to a stomach oppressed with animal food a cup or two of strong Coffee affords considerable relief, consequently it promotes digestion; this effect, and that of its obviating drowsiness, are better ascertained than any other ascribed to this article.

A great variety of substitutes for Coffee has been recommended, which it would be unnecessary here to enumerate. The fact is, that in most farinaceous matter, on being roasted or burnt to that degree to which Coffee too frequently is, the peculiar sapid principle is totally dissipated by the heat, and nothing but the more fixed part common to all remains.

[a] See *Lin. Amoen Acad. vol. 6. p.* 176. *F. Hoffman. Med. Syst. T.* 4. *P. i.* 209. *Plaz. Diss. de potus coffé abusu, &c. Zimmerman. Erfahr. P.* 2. *p.* 347. *Willis. Pharm. Ration. p.* 203.

[b] *Santé des gens de lettres. p.* 200.

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Two species of Lonicera, viz. Periclymenum and Diervilla, or the common, and the yellow-flowered upright Honey-suckle, and the Linnæa borealis, or Two-flowered Linnæa, belonging to the other Cymosæ, have been ranked as medicinal plants; but they are not noticed in the British Dispensatories, nor do they seem interesting enough to deserve particular attention.

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ORD. XI. CUCURBITACEÆ.

From *Cucurbita*, a Gourd.—Gourd-like Plants.

CUCUMIS COLOCYNTHIS. BITTER CUCUMBER, Or, COLOQUINTIDA.

SYNONYMA. Colocynthis. *Pharm. Lond. & Edinb. Gerard Emac. p.* 915. *Cam. Epit. p.* 982. *Raii Hist. p.* 642. Colocynthis fructu rotundo minor: *Bauh. Pin. p.* 313. Colocynthis vulgaris. *Park. Theat. p.* 160.

Class Monoecia. *Ord.* Syngenesia. *Lin. Gen. Plant.* 1092.

Ess. Gen. Ch. *Masc. Cal.* 5-dentatus. *Cor.* 5-partita. *Filamenta* 3.
Fem. Cal. 5-dentatus. *Cor.* 5-partita. *Pist.* 3-fidum.
Pomi semina arguta.

Sp. Ch. C. foliis multifidis, pomis globosis glabris.

THE root is annual, white, divided into long branches, which strike deeply into the ground: the stems trail, like those of the garden cucumber, a considerable length, and are beset with rough hairs: the leaves are of a triangular shape, obtuse, variously sinuated, hairy, on the upper surface of a fine green, beneath rough, and whitish: the flowers are yellow, solitary, and appear at the axillæ of the leaves: the calyx of the male flowers is bell-shaped, and

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divided at the brim into five tapering segments: the corolla is monopetalous, bell-shaped, and divided at the limb into five pointed segments: the filaments are three, two of which are bifid at the apex; they are all very short, and inserted into the calyx: the antheræ are linear, long, erect, and adhere together on the outer side: the calyx and corolla of the female flower are similar to those of the male: the three filaments are without antheræ: the germen is large: the style cylindrical, very short, furnished with three stigmata, which are thick, gibbous, bifid, and bent outwardly: the fruit is a round apple, of the size of an orange, divided into three cells, abounding with a pulpy matter, separated every where by cellular membrane, and including many ovate compressed seeds. The flowers appear from May till August.

Colocynth is imported for use to this part of Europe from Turkey, but it is yet unknown here of what place this plant is a native. It seems to have been cultivated in Britain in the time of Turner, and the figure we have given was drawn from a specimen of the plant produced by sowing the seed in a hot bed. Though the plants thus raised put forth flowers readily, they are very rarely known to bear fruit. The spongy membranous medullary part of the fruit is directed for medicinal use: this, "which to the taste is nauseous, acrid, and intensely bitter, on being boiled in water, renders a large quantity of the liquor ropy and slimy: even a tincture of it made in proof spirit is so glutinous as not to pass through a filter, and not easily through a common strainer. The watery decoctions inspissated, yield a large proportion, half of the weight of the colocynth, or more, of a mucilaginous extract; which purges strongly, but with much less irritation, and greater safety, than the colocynth itself, and appears to be the best preparation obtainable from this drastic drug."*

This very powerful and irritating cathartic is the Κολοκυνθις of the Ancient Greeks, and the Alhandal of the Arabians. It was frequently employed by both in different diseases, though not without

* *Lewis, M. M. p.* 246.

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an apprehension of danger, from the violence of its effects, of which various instances are related.[b] In doses of ten or twelve grains this substance purges with great vehemence, frequently producing violent gripes, bloody discharges, and even disordering the whole system. Many attempts therefore have been made to correct its virulence, by the addition of acids, astringents, and the like; but these seem to answer no other purpose than what might be equally effected by a reduction of the dose. "The best method of abating its virulence, without diminishing its purgative virtue, seems to be by triturating it with gummy farinaceous substances, or the oily seeds, which, without making any alteration in the colocynth itself, prevents its resinous particles from cohering, and sticking upon the membranes of the intestines, so as to irritate, inflame, or corrode them."[c]

This drastic purgative has been recommended in various chronic complaints;[d] but as several other cathartics have all the advantages of coloquintida, and may be used with more safety, its use is now seldom resorted to, especially alone. Extractum colocinthidis compositum & pipulæ ex colocynthide cum aloe, are directed by the Pharmacopœias.

[b] See *Shulz Diss. de Colocynthide. Tulp. Obs. lib.* 4. *c.* 26. *p.* 218. A case in which it proved fatal is mentioned by *Plater, Obs. p.* 858. And *Dioscorides* observes, that, employed in the way of enema, it occasioned a bloody discharge. *Lib.* 4. *c.* 178.

[c] *Edinburgh New Dispens. by Dr. Duncan. p.* 175.

[d] As worms, lues venerea, cephalalgia, mania, dropsy, Gonorrhœa, epilepsy, asthma, &c.

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MOMORDICA ELATERIUM. WILD, Or SQUIRTING CUCUMBER.

SYNONYMA. Cucumis agrestis. *Pharm Lond.* Cucumis asininus. *Gerard Emac. p.* 912. Cucumis sylvestris asininus dictus. *Bauh. Pin.* 314. Cucumis sylvestris sive asininus. *J. Bauh.* i. *p.* 248. *Raii Hist. p.* 647. Cucumis agrestis sive asininus. *Park. Theat.* 161. Σικυος ἀγριος *Græcorum.* Succus fructus inspissatus, Elaterium dictus.

Class Monoecia. *Ord.* Syngenesia. *Lin. Gen. Plant.* 1090.

Ess. Gen. Ch. *Masc. Cal.* 5-fidus. *Cor.* 5-partita. *Filamenta* 3.
Fem. Cal. 5-fidus. *Cor.* 5-partita. *Stylus* 3-fidus.
Pomum elastice dissiliens.

Sp. Ch. M. pomis hispidis, cirrhis nullis.

THE root is annual, long, thick, and of a fleshy substance; it sends forth several stems, which are round, branched, thick, rough, and trailing like the common cucumber, but without tendrils; the leaves are irregularly heart-shaped, slightly sinuated, veined, above of a deep green colour, underneath paler, rough, reticulated, and stand upon strong footstalks: the flowers proceed from the base of the footstalks of the leaves, and are both male and female on the same plant: the corolla is divided into five acute segments, reticulated with green veins, and placed above the germen: the calyx consists of five narrow acute segments: the stamina, in the male flowers, are three, short, tapering, two of which have cloven antheræ, the other has a simple one; in the female flowers the filaments are very short, and without antheræ: the style is short, trifid, and terminated by oblong stigmata, of a green colour: the fruit is large, oblong, hairy, divided into three cells, which contain many flat seeds: when ripe this fruit, on being touched, bursts open with great force, and

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throws its contents to a considerable distance; hence the name Squirting Cucumber. It is a native of the South of Europe, and flowers in June and July.

Since the time of Gerard, the wild cucumber has been regularly cultivated in this country for medical use: all the parts of the plant are bitter, and strongly purgative,* but the dried juice, or fæculæ of the fruit, known in the shops by the name of Elaterium, is the only part now medicinally employed, and has been distinguished into white and black Elaterium: the first is prepared from the juice, which issues spontaneously, and the latter from that which is obtained by expression.[a] The method directed in the London Pharm. for preparing this medicine, is as follows:—"Slit ripe wild cucumbers, and pass the juice (very lightly pressed) through a very fine sieve into a glass vessel; then set it by for some hours, until the thicker part has subsided. Pour off the thinner part swimming at the top, and separate the rest by filtering; cover the thicker part which remains after filtration, with a linen cloth, and dry it with a gentle heat."

The sensible qualities of this inspissated juice are not remarkable either to the smell or to the taste; it is inflammable, and dissolves readily in watery or spirituous menstrua. Elaterium is a very powerful cathartic, and was frequently employed as such both by the Greek and Arabian physicians, and its use has since been much commended in hydropic cases, particularly by Pauli,[b] Sydenham,[c]

* Radicum vis cathartica major est quam foliorum, minor vero quam fructuum. *Geoff.*

[a] This drug was formerly prepared in several different ways, a circumstance necessary to be attended to in the history of its medicinal effects.

[b] Although S. Pauli employed this medicine with great success, yet from the extreme violence of its operation, he thinks it should not be used until the milder purgatives have failed.

[c] "Elaterium sive fœcula Cucumeris agrestis, potenter, in permodica quantitate vires suas exserit, in conturbanda alvo, & fœcibus, cum serosis & aquosis humoribus copiose egerendis," &c. Op. p. 488.

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and Lister.[d] It is undoubtedly the most violent purgative in the Materia Medica, and ought therefore to be administered with great caution, and only where the milder cathartics have proved ineffectual. The dose is from half a grain to three grains: the most prudent and effectual way in which dropsies are now treated by this remedy, is by repeating it at short intervals in small doses.

[d] We may also notice, that Lister observes that the patients, by taking this medicine, became very hot, and found unusual stroug pulsations at the extremities of their fingers. De Hydrope, in App. Op. Mortoni, p. 25.

BRYONIA ALBA. WHITE BRYONY.

SYNONYMA. Bryonia. *Pharm Edinb.* Bryonia aspera sive alba, baccis rubris. *Bauh. Pin. p.* 297. Bryonia alba vulgaris. *Park. Theat. p.* 178. Bryonia alba. *Gerard. Emac. p.* 869. *Raii. Hist. p.* 659. *Synop. p.* 261. *Hall. Hist. Stirp. Helv.* 574. *Hudson. Flor. Ang. p.* 437. *Relhan. Flor. Cantab. p.* 375. *Lightfoot. Flor. Scot.* Bryonia *dioica.* *Withering. Bot. Arr. p.* 1133. *Ic. Flor. Dan. t.* 813. *Jacq. Flor. Aust. t.* 199. *Miller. t.* 70.

Class Dioecia. *Ord.* Syngenesia. *Lin. Gen. Plant.* 1093.

Ess. Gen. Ch. *Masc. Cal.* 5-dentatus. *Cor.* 5-partita. *Filamenta* 3.
Fem. Cal. 5-dentatus. *Cor.* 5-partita. *Stylus* 3-fidus.
Bacca subglobosa, polysperma.

Sp. Ch. B. foliis palmatis utrinque calloso-scabris.

THE root is perennial, large, often a foot in circumference, tapering, branched, and of a whitish yellow colour: the stems are several yards in length, angular, slender, scandent, twisting themselves about the bushes for support: the leaves are large, hairy,

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lobed, or palmated, lobes pointed; they stand alternately upon strong hairy footstalks: the flowers are of a yellowish green colour, produced in clusters at the footstalks of the leaves, and are male and female on different plants: the calyx of the male flowers is bell-shaped, and deeply divided into five narrow pointed segments: the corolla is also divided into five segments, which are ovate, and spreading: the filaments are three, short, thick, and furnished with irregular antheræ, of which two are said to be on each two of the filaments, and one on the third: the calyx and corolla of the female flower resemble those of the male, but are smaller: the germen is round, and placed below the flower: the style is strong, erect, of the length of the corolla, and divided at the top into three parts, which are bent downwards, and each furnished with a large triangular stigma: the fruit is a smooth red berry containing five or six seeds. It is common in woods and hedges, and flowers in May and June.

Linnæus places this plant in the class Monoecia, though he tells us that Jacquin describes it as dioecious; and we have always seen it so in this country; nor have we ever found it to bear black berries. Some doubt may also arise whether it be properly referred to the order Syngenesia, as the antheræ upon the different filaments do not unite; a circumstance which we have endeavoured to represent in a separate display of the flower.

"Fresh Bryony root, taken up in the beginning of spring, abounds with a thin milky juice: if the upper part of the root be bared of earth, and the top cut over transversely, the juice continues to rise gradually to the surface, in notable quantity, for two or three days successively, and may be collected by forming a cavity in the middle to receive it. Both the root in substance, and the juice, have a disagreeable smell, and a nauseous bitter biting taste: applied for some time to the skin, they inflame or even vesicate the part. On drying the one, or inspissating the other, they lose most of their acrimony, and nearly the whole of their ill scent. In summer the root proves much less juicy and weaker both in smell and taste."*

* *Lewis, M. M. p.* 165.

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Bergius[b] states the virtues of this root to be purgans, hydragoga, emmenagoga, diuretica; *recent. rad.* subemetica; and recommends it in dropsy and asthma.

This powerful and irritating cathartic, though now seldom prescribed by physicians, is said to be of great efficacy in evacuating serous humours, and has been chiefly employed in hydropical disorders.[c] Instances of its good effects in other chronic diseases are also mentioned, as asthma, mania,[d] and epilepsy.[e] In small doses it is reported to operate as a diuretic, and to be resolvent and deobstruent: given in powder, from a scruple to a dram, it proves strongly purgative; and the juice, which issues spontaneously in doses of a spoonful or more, has similar effects, but is more gentle in its operation. An extract, prepared by water, acts more mildly, and with greater safety, than the root in substance, and may be given from half a dram to a dram. Externally the fresh root has been employed in cataplasms, as a resolvent and discutient; also in ischiadic and other rheumatic affections.

[b] *Mat. Med. p.* 786.

[c] See *Burcgraf, Lexicon Med. p.* 1710. where he gives a particular account of a successful method of employing this root.

[d] *Sydenham, Process. integr. in ap. p.* 626.

[e] *Arnoldus De Villa Nova. Brev. pract. L.* 1. *c.* 22. *Reussner, Curat. & Observ. p.* 158.

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ORD. XII.

SOLANACEÆ, SEU LURIDÆ.

Linnæus called this Order Luridæ, from the Plants it included being of a pallid noxious appearance. "*Sunt plantæ suspectæ.*" LIN.

DATURA STRAMONIUM. COMMON THORN-APPLE.

SYNONYMA. Stramonium. *Pharm. Edinb.* Solanum fœtidum, pomo spinoso oblongo. *Bauh. Pin. p.* 168. Stramonium majus album. *Park. Parad. p.* 360. Stramonium spinosum. *Gerard. Emac. p.* 348. *Raii. Hist. p.* 748. Stramonium foliis angulosis, fructu erecto, muricato calyce pentagonia. *Hall. Stirp. Helv. n.* 586. D. stramonium. *Withering. Bot. Arrang. p.* 230. *Flor. Danic. p.* 436. *Stoerck. Libell. de Stram. &c. Curt. Flor. Lond. Smith. Flor. Brit.* 253.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant. p.* 246.

Ess. Gen. Ch. *Cor.* infundib. plicata. *Cal.* tubulosus, angulatus, deciduus. *Caps.* 4-valvis.

Sp. Ch. D. pericarp. spinosis erectis ovatis, foliis ovatis glabris.

THE root is large, annual, white, divided, and fibrous: the stalk is thick, erect, round, smooth, shining, below simple, above dichotomous, and rises about two feet in height: the leaves are alternate,

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large, broad towards the base, pointed at the extremity, indented, and formed into several obtuse angles, smooth, of a dark green colour, and standing upon strong round short footstalks: the flowers are solitary, large, white, and placed on short erect peduncles at the junction of the branches: the calyx is composed of one leaf, tubular, pentangular, and divided at the brim into five teeth: the corolla is white, monopetalous, funnel-shaped, plicated, cut at the margin into five teeth, and furnished with a long cylindrical tube: the five filaments are tapering, about the length of the calyx, adhering to the tube, and supplied with oblong flat antheræ: the germen is oblong, and placed above the insertion of the corolla: the style is filiform, equal in length to the filaments, and terminated by a thick blunt stigma: the capsule is large, oval, fleshy, beset with spines, divided into the cells, and four valves, which contain numerous kidney-shaped seeds. It grows wild in this country, about dunghills, rubbish, and in gardens, flowering in July.

This plant has been long known as a powerful narcotic poison; its congener, the D. Metel, is thought to be Στρυχνος μανικος of Theophrastus and Dioscorides, and is therefore the species received by Linnæus into the Materia Medica. The Stramonium, in its recent state, has a bitterish taste, and a smell somewhat resembling that of poppies, or as called by Bergius, narcotic, especially if the leaves be rubbed betwixt the fingers. By holding the plant to the nose for some time, or sleeping in a bed where the leaves are strewed, giddiness of the head and stupor are said to have been produced.[a]

Instances of the deleterious effects of this plant are numerous, especially of the seeds,[b] some of which we shall relate for the pur-

[a] *Stoerck, l. c. p. 5.*

[b] Kramer, in *Comm. Nor. A.* 1733. *p.* 251. Kaauw. *impet. n.* 349. Lobsten *epist. ad* Gurrin. *plant. venen. Alsat.* Clauder. *prax. med. leg. Cas. i. Eph. Nat. Cur. Cent. ix. obs.* 94. Huckel, in *Comm. Lit. Nor.* 1744. *p.* 14. Kaauw. *Act. Franc. i. p.* 200. Buchner, *Miscell.* 1725. *p.* 611. *Eph. Nat. cur. Dec. iii. a.* 3. *obs.* 170. Barrere, *Essai sur l'hist. nat. de la France* (ed. nov.) *p.* 48. Deering. *Catal. of Plants, &c. p.* 209. Buchner, *Misc. Phys. Math. Med.* 1727. *p.* 122. Sauvages, *Nosol. T.* 2. *P.* 2. *p.* 430. Fowler, *Med. Comm. vol. v. p.* 161. Rush. *Med. Com. vol. i.* 74.

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pose of stating the symptoms which they produce. A man, aged sixty-nine, labouring under a calculous complaint, by mistake boiled the capsules of the Stramonium in milk, and in consequence of drinking this decoction was affected with vertigo, dryness of the fauces, anxiety, followed with loss of voice and sense; the pulse became small and quick, the extremities cold, the limbs paralytic, the features distorted, accompanied with violent delirium, continual watchfulness, and a total suppression of all the evacuations; but in a few hours he was restored to his former state of health.[c]

Every part of the plant appears to possess a narcotic power,[d] but the seeds are the only part, of whose fatal effects we find instances recorded. Their soporiferous and intoxicating qualities are well

The circumstances recited in the following advertisement, published by my friend Dr. Haygarth, shew the necessity of adopting the precautions, which he judiciously recommends, and which ought to be made public.

"Gardeners are particularly desired to take care never to throw poisonous plants "out of gardens into the streets, lanes, or even the fields to which people can have "access. Poor children, for diversion, curiosity, or hunger, are prompted to eat all "kinds of vegetables which come in their way, especially seeds, fruits, or roots. "This caution does not proceed from fanciful speculation, but from actual mischief, "produced by the cause here specified. A physician has lately seen several children "poisoned with the roots of the Aconite or Monkshood, thrown into an open field "in the City of Chester, and with the Seeds of the Stramonium or Thorn Apple, "thrown into the street. The former were seized with very violent complaints of "vomiting, an alarming pain of the head, stomach, and bowels; the latter with blind-"ness, and a kind of madness, biting, scratching, shrieking, laughing, and crying, "in a frightful manner. Many of them were very dangerously affected, and escaped "very narrowly with life. These, and all other, poisonous plants, taken out of "gardens, should be carefully buried or burned."

[c] *Ess. & Obs. Phys. & Lit. v. ii. p.* 247.

According to Haller, "Deliria facit utique & sopores, inde amentiam, maniam, convulsiones, paralyses artuum, sudores frigidas, sitim vehementem, tremores." *l. c.*

[d] For that of the root, see *Ray, l. c.* For that of the leaves, *Döderlin, Comm. Nor. l. c. p.* 15.

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known in eastern countries,[e] and if we can credit the accounts of some authors, have been converted into purposes the most licentious and dishonourable.[f] The internal use of Stramonium, as well as that of several other deleterious plants which we have had occasion to notice, was first ventured upon and recommended by Baron Stoerck, who gave an extract prepared of the expressed juice of the plant, with advantage, in cases of mania, epilepsy, and some other convulsive affections.[g] But as the success of this plant, even in the hands of the Baron, was not remarkable enough to claim very extraordinary praise, his account of the efficacy of the Stramonium probably would not have procured it a place in the Materia Medica of the Edinburgh Pharmacopœia, had its character rested solely upon its representation. Odhelius tells us, that of fourteen patients suffering under epileptic and convulsive affections, to whom he gave the Stramonium in an hospital at Stockholm, eight were completely cured, five were relieved, and only one received no benefit.[h] Bergius relates three cases of its success, viz. one of mania, and two of convulsions.[i] Reef, a Swedish physician, mentions its utility in two cases of mania.[k] Wedenberg cured four girls,

[e] "Ab Indis inter alia inebriantia et aromatica in electuarium recipitur semen, ad grata phantasmata cienda, et, ut quidam volunt, quo ad celera patranda tanto audaciores evadant." *Kæmpher, Exot. p.* 650. Cited by *Murray, App. Med. vol. i. p.* 458.

It was a custom with the Chinese to infuse the seeds in beer. *Sprat, Hist. of the Royal Society, p.* 162.

[f] "Somnum facit adeo profundum, ut impune pudicitia puellæ violari possit, quæ hoc toxicum sumserit." See *Haller, l. c.* A mulierculis infidis Turcis, gynecæis inclusis, ad consopiendos & dementandos maritos, quo aliorum magis desideratorum amplexibus satientur, usurpari, et Hamburgi a vetula sic honestam feminam, quo se inscia moechum admitteret, intoxicatam narratur. *Lindenstolpe de ven. Ed. Stenzel. p.* 531. Cited by *Murray, l. c.* [g] *Lib. de Stram. &c.* published in 1762.

[h] See *Vetensk. Acad. Handl.* 1766. *p.* 277. *sq.* Also *Med. Com. V. i.* 368.

[i] In his Mat. Med. he also says, "Delirium post puerperium sæpe curavi cum Datura, ubi aila fefellerunt;" adding, "Pariter illa profuit adversus ideam fixam ex mœrore cum delliratione mansueta conjuncta," p. 122.

[k] Strandberg, *om. chron. spikd. p.* 16.

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affected with convulsive complaints, by the use of this medicine.[l] Other instances of the kind might be added. Greding however, who made many experiments, with a view to ascertain the efficacy of this plant, was not so successful; for out of the great number of cases in which he employed the Stramonium, it was only in one instance that it effected a cure; and he objects to the cases stated by Dr. Odhelius, on the ground that the patients were dismissed before sufficient time was allowed to know whether the disease would return again or not.[m] In this country we are unacquainted with any practitioners whose experience tends to throw any light on the medical character of this plant. It appears to us, that its effects as a medicine are to be referred to no other power than that of a narcotic; and Dr. Cullen, speaking on this subject, says, "I have no doubt that narcotics may be a remedy in certain cases of mania and epilepsy; but I have not, and I doubt if any other person has, learned to distinguish the cases to which such remedies are properly adapted. It is therefore that we find the other narcotics, as well as the Stramonium, to fail in the same hands in which they had in other cases seemed to succeed. It is this consideration that has occasioned my neglecting the use of Stramonium, and therefore prevented me from speaking more precisely from my own experience on this subject."[n]

The extract of this plant has been the preparation usually employed, and from one to ten grains and upwards, a day; but the powdered leaves, after the manner of those directed of hemlock, would seem for the reason there given, to be a preparation more certain and convenient. Greding found the strength of the extract to vary exceedingly; that which he obtained from Ludwig, was a much more powerful medicine than that which he had of Stoerck.

Externally the leaves of Stramonium have been used as an application to inflammatory tumours and burns; in the latter a remarkable instance is noticed by Gerard. l. c.

[l] *Diss. de Stammonii usu, &c.*

[m] *Ludwig. Advers. vol. i. p.* 354. [n] *Mat. Med. vol. ii. p.* 282.

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VERBASCUM THAPSUS. GREAT BROAD-LEAVED MULLEIN.

SYNONYMA. Verbascum. *Pharm. Edinb.* Verbascum mas latifolium luteum. *Bauh. Pin. p.* 239. *Raii. Hist. p.* 1094. *Synop. p.* 287. Verbascum album vulgare, sive Tapsus barbatus communis. *Park. Theat. p.* 60. Tapsus barbatus, *Gerard. Emac. p.* 773. Verbascum foliis decurrentibus utrinque tomentosis *(lanatis) Hal. Stirp. Helv. n.* 581. V. Thapsus. *Flor. Dan. p.* 631. *Hudson. Ang. p.* 89. *Withering. Bot. Arr. p.* 223.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 243.

Ess. Gen. Ch. Cor. rotata subinæqualis. *Caps.* 3-locularis, 2-valvis.

Sp. Ch. V. foliis decurrentibus utrinque tomentosis caule simplici.

THE root is biennial, long, divided, and descends deeply into the ground: the stalk is simple, erect, round, rigid, hairy, rises two or three feet in height, and is irregularly beset with leaves, which are large, without footstalks, at the base decurrent, or running along the stem, oblong or oval, somewhat pointed, indented at the margin, of a pale green colour, and covered on both sides with thick down, or white soft hairs: the bracteæ are lance-shaped, with narrow points, hairy on the under side, on the upper smooth, and longer than the calyx: the flowers are yellow, and produced in long close terminal inclining spikes: the calyx is divided into five pointed segments, which are hairy on the outside: the corolla is monopetalous, yellow, divided at the limb into five unequal segments, which are blunt, oval, veined, and slightly indented at the edges: the five filaments are hairy, of unequal length, and furnished with double reddish antheræ: the germen is roundish, downy, and supports a simple style, crowned with a compressed stigma: the capsule is oblong, separated into two cells and valves, and contains

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many small angular seeds. It is a native of England, and usually grows on the banks of ditches, and flowers in July.

The Verbascum, according to C. Bauhin, is the φλομος [a] of Dioscorides: it ranks with the natural order Solanaceæ, but does not seem to possess those narcotic powers for which this order is distinguished.* The leaves have an herbaceous, bitterish, subastringent taste, but no peculiar smell: upon being chewed they discover a mucilaginous quality; and hence they are recommended as emollients both internally and externally. In the way of fomentation and cataplasm they are said to be an useful application to hæmorrhoidal tumours; also for promoting the resolution or suppuration of glandular indurations.[b]

Catarrhal coughs and diarrhœas are the complaints for which the Verbascum has been internally prescribed. Dr. Home tried it in both, but it was only in the latter disease that this plant succeeded. He relates four cases in which a decoction of Verbascum was given; and from which he concludes, that it "is useful in diminishing or stopping diarrhœas of an old standing, and often in easing the pains of the intestines. These acquire a great degree of irritability; and the ordinary irritating causes, aliment, bile, distention from air, keep up a quicker peristaltic motion. This is obviated by the emollient and perhaps gentle astringent qualities of this plant."[c]

The decoction was prepared of two ounces of the leaves, with a quart of water, of which four ounces were given every three hours. The flowers of this plant have likewise been employed medicinally, having been supposed to possess anodyne and pectoral virtues: it is probable, however, that neither the leaves nor flowers deserve to be considered as medicines of much efficacy.

[a] Φλεγω, uro, quasi φλογος, flamma, quia hujus pro elychnis usus est. *C. Bauh. l. c.*

* We are told, however, that by the seeds of this plant fishes become so stupified as to suffer themselves to be taken out of the water by the hand. *Boccone*, Vide *Bergius, Mat. Med. p.* 117. [b] See *Mur. M. M. vol. i. p.* 488. [c] *Clinical Ex. & Hist. sect.* 22.

In pulmonary complaints of cattle the Verbascum was found of great use, and hence is by Gerard called Cow's Lung-wort.

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HYOSCYAMUS NIGER. BLACK HENBANE.

SYNONYMA. Hyoscyamus. *Pharm. Edinb.* Hyoscyamus vulgaris. et niger. *Bauh. Pin. p.* 169. Hyoscyamus niger. *Gerard. Emac. p.* 353. Hyoscyamus vulgaris. *J. Bauh.* iii. 627. *Raii. Hist. p.* 711. *Synop. p.* 274. *Park. Theat. p.* 362. Hyoscyamus. *Hal. Stirp. Helv. n.* 580. *Stoerck Libel. de Stramonio, &c. Withering. Bot. Arrang. p.* 231.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 247.

Ess. Gen. Ch. Cor. infundibul. obtusa. *Stam.* inclinata. *Caps.* operculata, 2-locularis.

Sp. Ch. H. foliis amplexicaulibus sinuatis, floribus sessilibus.

THE root is biennial, long, compact, white, and beset with many fibres: the stalk is erect, round, woody, branched, and rises about two feet in height: the leaves are large, cut into irregular lobes or pointed segments, of a sea-green colour, undulated, woolly, and at their bases embrace the stem: the flowers are produced in irregular clusters at the tops of the branches; they are funnel-shaped, consisting of a short tube, with an expanded limb, which is divided into five obtuse segments, of an obscure yellow colour, and beautifully painted with many purple veins: the calyx is divided into five short pointed downy segments: the five filaments are tapering, downy at the base, inserted in the tube of the corolla, and furnished with large oblong antheræ: the germen is roundish: the style slender, longer than the stamina, and terminated by a blunt stigma: the capsule is oval, marked with a line on each side, and divided into two cells, which contain many small irregular brown seeds. It is a native of England, and grows commonly amongst rubbish, about villages, road sides, &c. and flowers in June.

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"The smell of Hyoscyamus is strong and peculiar, and the leaves, when bruised, emit somewhat of the odour of tobacco. This smell is still stronger when the leaves are burnt; and on burning they sparkle with a deflagration, somewhat resembling that of nitre, but to the taste they are mild, and mucilaginous." Henbane is a powerful narcotic poison,[a] and many instances of its deleterious effects are recorded by different authors;[b] from which it appears that any

[a] Haller says, Memini sodalem meum Simonium, cum Leidæ mecum, anno 1725. Boerhaavii scholas frequentaret, Aconita, Apocyna, Belladonnæ baccas impune devorasse, ab Hyoscyami vero semine victum, nimiæ curiositatis pœnas dedisse, atque mente alienatum, alteroque latere resolutum, tamen a Præceptore servatum fuisse. *Stirp. Helv. n.* 580.

[b] Out of the many instances of this kind, we shall only advert to some of them, in order to shew that the roots, seeds, and leaves of this plant, have separately produced poisonous effects. Dr. Patouillat, Physician at Toucy in France, relates (in the *Phil. Trans. vol.* 40. *p.* 446) that nine persons, in consequence of having eaten the *roots* of Hyoscyamus, were seized with most alarming symptoms; "some were speechless, and shewed no other signs of life than by convulsions, contortions of their limbs, and the risus sardonicus; all having their eyes starting out of their heads, and their mouths drawn backwards on both sides; others had all the symptoms alike; however five of them did now and then open their mouths, but it was to utter howlings. The madness of all these patients was so complete, and their agitations so violent, that in order to give one of them the antidote, I was obliged to employ six strong men to hold him while I was getting his teeth asunder to pour down the remedy." And what is remarkable, Dr. P. says, that on their recovery, all objects appeared to them as red as scarlet, for two or three days.—Further accounts of the effects of these roots are given by Wepfer de Cicut, &c. p. 230. Simon Pauli Quadr. p. 384. Blom, in Vet. Ac. Handl. 1774. p. 52.——Respecting the *seeds* of Henbane, we have an account given by Sir Hans Sloane, (in the *Phil. Trans. vol.* 38. *p.* 99.) of four children who ate them by mistaking the capsules, in which they were contained, for filberts. "The symptoms that appeared in all the four were great thirst, swimmings of the head, dimness of sight, ravings, profound sleep, which last in one of the children continued two days and nights." See also *Essays and Observations, phys. & lit. vol* 2. *p.* 243. *Helmont. Ort. Med. p.* 306. *Ephemer. Germ. annis* 7 *&* 8. *&c.*——The *leaves* of Hyoscyamus, we are told, were boiled in broth, and eaten by seven persons, (five men and two women) who soon became affected with symptoms of intoxication. Dr. Stedman says, "I saw them about three hours after having eat it; and then three of the men were become quite insensible, did not know their comrades, talked inco-

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part of the plant, when taken in sufficient quantity, is capable of producing very dangerous and terrible symptoms.‡ But there cannot be a doubt that this plant, like others of the same natural order, under proper management, may be safely employed, and be found in many cases to be an active and useful remedy. Hyoscyamus was well known to the ancients, and its effects as an anodyne were experienced by Dioscorides,[c] and with this intention it has been used both internally and externally by several subsequent writers, particularly by Celsus;[d] and in hæmorrhagic diseases, the sem. Hyoscyami were successfully given by Plater,[e] Forestus,[f] and Boyle.[g]

It appears however that for a long time past the employment of Henbane, in the practice of medicine, was wholly laid aside till Baron Stoerck published several cases of different diseases, in which an extract, prepared from the juice of this plant, has been discovered to be an efficacious remedy.[h] These diseases are stated by the Baron to be internal spasms and convulsions, palpitations of the heart, madness, melancholy, epilepsy, inveterate head-achs, hæmoptysis; and a troublesome cough, which accompanied the last-mentioned complaint, was completely appeased by the repeated use

herently, and were in as high a delirium as people in the rage of a fever. All of them had low irregular pulses, slavered, and frequently changed colour: their eyes looked fiery, and they catched at whatever lay next them, calling out that it was going to fall." *Phil. Trans. vol.* 47. *an.* 1750.

For additional facts, see *Haller l. c. Spielmanni Diss. de veget. ven. Alsat.*

Henbane is poisonous to birds and dogs; but horses, cows, goats, and swine, it does not affect.

‡ Vires emollientes, & narcoticas, classis suæ potentissimas possidet, ut etiam magis, quam reliquæ, mentem emovere videatur, & deliria furiosa, rixosaque ciere, unde olim nomen gessit *alterci*. Ea deliria aliquando fugacia sunt, & temulentiæ similia; alias diutius durant; & denique in mortem transeunt. Alias Hyoscyamus hominem in stuporem conjicit. Sed & sopores facit, & vertigines, convulsiones, risusque sardonios, & inflationes, strangulationes, ardorem faucium, frigus extremorum. Si alvum duxit, a resolutione aliqua toni id videtur factum fuisse. *Haller l. c.*

[c] *Lib.* 4. *c.* 69. [d] *Lib.* 5. *c.* 25. [e] *Prax. Med. p.* 635. [f] *Observat. lib.* 16. [g] *Usefulness of Nat. Phil. part* 2. [h] *Lib. de Stram. Hyoscyam. &c.*

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of the extract, which in several disorders was often found to produce sleep more powerfully than opium. The success of Hyoscyamus in these cases, (many of which were said to be of long duration, and to have resisted the effects of other remedies) is also confirmed by Collin, who extended the dose of the Extract. Hyoscyami, to twenty-four or thirty grains per diem.[i] But from the experiments made of this medicine by Greeding, who tried it in forty cases of melancholia, mania, and epilepsia, the result was very different:[k] yet while his practice shews that no benefit is to be expected in these three diseases, it tends to prove that this medicine is a useful anodyne; and as it usually opens the body, it may be advantageously substituted for opium, where the astringency of the latter becomes an objection to its use. Dr. Cullen says, "that in "epilepsy, and various convulsive affections, for which Baron "Storck particularly recommends the extract of Henbane, we have "very frequently employed it, but have never found it of any great "virtue, nor of more than what we have found in opium. We "have indeed found the Hyoscyamus to be often an agreeable anodyne and soporiferous medicine; and we have frequently found "it such in persons, who from particular circumstances did not "agree with opium, and particularly because it was less binding to "the belly than opium. We judge however that it is more ready "in full doses to give delirium than opium is, and therefore we "found it in many cases to give turbulent and unrefreshing sleep; "and notwithstanding its laxative qualities, for which we had em"ployed it, we have been obliged to lay it aside."[l] Dr. Withering found it of great advantage in a case of difficult deglutition. Stoerck and some others recommend this extract in the dose of one grain or two; but Dr. Cullen observes, that he seldom discovered its anodyne effects till he had proceeded to doses of eight or ten grains, and sometimes to fifteen, and even to twenty.

[i] *Observ. Tom. 2. p. 142.* [k] Vide *Ludw. Advers. Med. pr. Vol. i. P. i. p. 71. & sq.*
[l] *Mat. Med. vol. ii. p. 271.*

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The leaves of Henbane are said to have been applied externally with advantage in the way of poultice, to resolve scirrhous tumours, and to remove some pains of the rheumatic and arthritic kind.

NICOTIANA TABACUM. VIRGINIAN TOBACCO.

SYNONYMA. Nicotiana. *Pharm. Lond. & Edinb.* Nicotiana major latifolia. *Bauh. Pin. p.* 169. Nicotiana major sive Tabacum majus. *J. Bauh. Hist. iii. p.* 629. Tabacco latifolium. *Park. Parad. p.* 363. *Raii Hist. p.* 713. Hyoscyamus Peruvianus. *Gerard. Emac. p.* 357. Petum latifolium. *Clusius. Exot. p.* 309. Herba sancta. *Lobel. Advers. p.* 251. Nicotiana *(Tabacum)* foliis lanceolatis, ovatis, decurrentibus. *Miller. Dict.*

α Nicotiana major latifolia. *C. B. l. c.*
Broad-leaved Virginian Tobacco.

β Nicotiana foliis lanceolatis acutis sessilibus, calycibus acutis, tubo floris longissimo. *Miller. Dict.*
Narrow-leaved Virginian Tobacco.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 248.

Ess. Gen. Ch. Cor. infundibul. limbo plicato. *Stamina* inclinata. *Caps.* 2-valvis, 2-locularis.

Sp. Ch. N. foliis lanceolato-ovatis sessilibus decurrentibus, floribus acutis.

THE root is annual, large, long, and fibrous: the stalk is erect, strong, round, hairy, branched towards the top, and rises five or six feet in height: the leaves are numerous, large, oblong, pointed, entire, veined, viscous, of a pale green colour, without footstalks,

* The figure here presented seems to accord very well with this variety.

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and follow the stem downwards: the bracteæ are long, linear, and pointed: the flowers terminate the stem and branches in loose clusters or panicles: the corolla is monopetalous, funnel-shaped, with a long hairy tube, which gradually swells towards the limb, where it divides into five folding acute segments of a reddish colour: the calyx is hairy, about half the length of the corolla, and is cut into five narrow segments: the five filaments are bent inwards, tapering, and crowned with oblong antheræ: the germen is oval, and supports a long slender style, terminated by a round cleft stigma: the capsule is oval, and divided into two cells, which contain many small roundish seeds.—It is a native of America, and flowers in July and August.

Tobacco was first imported into Europe about the middle of the sixteenth century by Hernandez de Toledo, who sent it to Spain and Portugal; at that time the Ambassador of Francis II. resided at the court of Lisbon, and in the year 1560, he carried the Tobacco into France, when it was presented to Catharine de Medicis as a plant from the new world, possessing extraordinary virtues. The Ambassador's name was Nicot, and hence the appellation Nicotiana. It appears from Lobel, that this plant was cultivated in Britain previous to the year 1570;[a] and the introduction of the custom of smoking it in England is ascribed to Sir Walter Raleigh. The cultivation of Tobacco* is now common in various parts of the globe, and though prohibited by the laws of this country, still the manufacture of it forms no inconsiderable branch of commerce.

[a] Vide l. c.

* Long, in his History of Jamaica, describes the method of its cultivation to be as follows:—"When a regular plantation of Tobacco is intended, several beds are prepared, well turned up with the hoe. The seed, on account of its smallness, is mixed with ashes, and sown upon them a little before the rainy season. The beds are then raked, or trampled with the feet, to make the seed take the sooner. The plants appear in two or three weeks. So soon as they have acquired four leaves, the strongest are drawn up carefully and planted in the Tobacco field by a line, at the distance of about three feet from each plant: this is done either with a stick or the finger. If no rain falls, it should be watered two or three times, to make it strike root. Every morning and evening the plants must be surveyed, in order to destroy a worm which

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The different sorts of Tobacco and Snuffs prepared from it which are now in use, are to be attributed to the difference of the climate and soil in which it grows, and the peculiar mode of managing and manufacturing the plant, rather than to any essential difference in its qualities; we shall therefore proceed to the consideration of the effects of Tobacco upon the body, which from its general employment deserves particular attention; and no apology will be thought necessary for transcribing the whole of what has been lately advanced upon this subject by Dr. Cullen.—"Tobacco is a well-known "drug, of a narcotic quality, which it discovers in all persons, even "in small quantity, when first applied to them. I have known a "small quantity of it, snuffed up the nose, produce giddiness, "stupor, and vomiting; and when applied in different ways, in "larger quantity, there are many instances of its more violent "effects, even of its proving a mortal poison. In all these instances "it operates in the manner of other narcotics: but along with its "narcotic qualities it possesses also a strongly stimulant power, "perhaps with respect to the whole system, but especially with "respect to the stomach and intestines; so as readily, even in no "great doses, to prove emetic and purgative.

sometimes invades the bud. When they are grown about four or five inches high they are to be cleaned from weeds, and moulded up; and as soon as they have eight or nine leaves, and are ready to put forth a stalk, the top is nipped off, in order to make the leaves longer and thicker. After this, the buds which sprout at the joints of the leaves are all plucked, and not a day suffered to pass without examining the leaves, to destroy a large caterpillar which is sometimes very destructive to them. When they are fit for cutting, which is known by the brittleness of the leaves, they are cut with a knife close to the ground; and after being left to lie there some little time, are carried to the drying-shed or house, where the plants are hung up, by pairs, upon lines or ropes stretched across, leaving a space between, that they may not touch one another. In this state they remain to sweat and dry. When they become perfectly dry, the leaves are stripped from the stalks, and made into small bundles, tied with another leaf. These bundles are laid in heaps, and covered with blankets. Care is taken not to overheat them; for which reason the heaps are laid open to the air from time to time, and spread abroad. This operation is repeated till no more heat is perceived in the heaps, and the Tobacco is then stowed in casks for exportation.—Vol. 3. p. 719.

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"By this combination of qualities, all the effects of tobacco may "be explained; but I shall begin with considering its effects as they "appear in the use of it as an article of living.

"As such it has been employed by snuffing, smoking, and chew- "ing; practices which, as having been for two hundred years past "common to all Europe, need not be described here. Like other "narcotics, the use of it may be introduced by degrees; so that its "peculiar effects, even from large quantities employed, may not, "or may hardly at all appear: but this does not at all contradict "the account I have given of its quality with respect to persons "unaccustomed to it, and even of its tendency to show its power in "those much accustomed to it: for even in these, the power of habit "has its limits; so that in persons going but a little beyond the "dose to which they have been accustomed, very violent effects are "sometimes produced.

"On this subject it is to be remarked, that the power of habit is "often unequal; so that in persons accustomed to the use of tobacco, "a lesser quantity than what they had been accustomed to, will "often have stronger effects than had before commonly appeared. "I knew a lady who had been for more than twenty years accus- "tomed to take snuff, and that at every time of day; but she came "at length to observe, that snuffing a good deal before dinner took "away her appetite: and she came at length to find, that a single "pinch, taken any time before dinner, took away almost entirely "her appetite for that meal. When, however, she abstained en- "tirely from snuff before dinner, her appetite continued as usual; "and after dinner, for the rest of the day, she took snuff pretty "freely without any inconvenience.

"This is an instance of the inequality of the power of habit in "exerting its effects: but in what cases this may take place, we "cannot determine, and must now go on in marking its usual and "ordinary powers. When snuff, that is, tobacco in powder, is first "applied to the nose, it proves a stimulus, and excites sneezing; "but by repetition that effect entirely ceases.

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" When snuff is first employed, if it be not both in small quantity " and be not thrown out immediately by sneezing, it occasions some " giddiness and confusion of head; but by repetition these effects " cease to be produced, and no other effect of it appears in the " accustomed, when not taken beyond the accustomed quantity. " But even in the accustomed, when it is taken beyond the usual " quantity, it produces somewhat of the same giddiness and con- " fusion of head that it did when first employed; and in several " cases, these effects in the accustomed, depending on a larger dose, " are not only more considerable, as they act on the sensorium, but " as they appear also in other parts of the system, particularly in " the stomach, occasioning a loss of appetite, and other symptoms " of a weakened tone in that organ.

" With respect to this, it is to be observed, that persons who take " a great deal of snuff, though they seem, from the power of habit, " to escape its narcotic effects; yet as they are often liable to go to " excess in the quantity taken, so they are still in danger from these " effects operating in an insensible manner; and I have observed " several instances of their being affected in the same manner as " persons are from the long continued use of other narcotics, such " as wine and opium; that is, by a loss of memory, by a fatuity, " and other symptoms of the weakened or senile state of the nervous " system, induced before the usual period.

" Among other effects of excess in snuffing, I have found all the " symptoms of dyspepsia produced by it, and particularly pains of " the stomach, occurring every day. The dependance of these upon " the use of snuff became very evident from hence, that upon an " accidental interruption of snuffing for some days, these pains did " not occur; but upon a return to snuffing, the pains also recurred; " and this alternation of pains of the stomach and of snuffing having " occurred again, the snuff was entirely laid aside, and the pains " did not occur for many months after, nor, so far as I know, for " the rest of life.

" A special effect of snuffing is its exciting a considerable dis-

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"charge of mucus from the nose; and there have been several in-
"stances of headachs, toothachs, and ophthalmias relieved by this
"means: and this is to be particularly remarked, that when this
"discharge of mucus is considerable, the ceasing or suppression of
"it by abstaining from snuff, is ready to occasion the very disorders
"of headach, toothach, and ophthalmia, which it had formerly re-
"lieved.

"Another effect of snuffing to be taken notice of is, that as a part
"of the snuff is often carried back into the fauces, so a part of this
"is often carried down into the stomach, and then more certainly
"produces the dyspeptic symptoms mentioned. These are the con-
"siderations that relate to snuffing; and some of them will readily
"apply to the other modes of using this drug.

"Smoking, when first practised, shows very strongly the narcotic,
"vomiting, and even purging powers of tobacco, and it is very
"often useful as an anodyne; but by repetition these effects dis-
"appear, or only show themselves when the quantity smoked is
"beyond what habit had before admitted of; and even in persons
"much accustomed to it, it may be carried so far as to prove a
"mortal poison. From much smoking all the same effects may
"arise which we said might arise from the excess in snuffing.

"With respect to the evacuation of mucus which is produced by
"snuffing, there are analogous effects produced by smoking, which
"commonly stimulates the mucous follicles of the mouth and fauces,
"and particularly the excretories of the salivary glands. By the
"evacuation from both sources, with the concurrence of the nar-
"cotic power, the toothach is often greatly relieved by it; but we
"have not found the smoking relieve headachs and ophthalmias so
"much as snuffing often does. Sometimes smoking dries the mouth
"and fauces, and occasions a demand for drink; but, as commonly
"the stimulus it applies to the mucous follicles and salivary glands
"draws forth their liquids, it occasions on the other hand a frequent
"spitting.

"So far as this is of the proper saliva, it occasions a waste of that

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" liquid so necessary in the business of digestion; and both by this " waste and by the narcotic power at the same time applied, the " tone of the stomach is often weakened, and every kind of dys- " peptic symptoms are produced. Though in smoking a great part " of the smoke is again blown out of the mouth, still a part of it " must necessarily pass into the lungs, and its narcotic power applied " there often relieves spasmodic asthma; and by its stimulant power " it there also sometimes promotes expectoration, and proves useful " in the catarrhal or pituitous difficulty of breathing.

" Smoking has been frequently mentioned as a means of guarding " men against contagion. In the case of the plague, the testimony " of Diemerbroek is very strong; but Rivinus and others give us " many facts which contradict this: and Chenot gives a remarkable " instance of its inutility. We cannot indeed suppose that tobacco " contains an antidote of any contagion, or that in general it has any " antiseptic power; and therefore we cannot allow that it has any " special use in this case: but it is very probable that this and other " narcotics, by diminishing sensibility, may render men less liable " to contagion; and by rendering the mind less active and anxious, " it may also render men less liable to fear, which has so often the " power of exciting the activity of the contagion. The antiloimic " powers of tobacco are therefore on the same footing with those " of wine, brandy, and opium.

" The third mode of using tobacco is that of chewing it, when it " shows its narcotic qualities as strongly as in any other way of ap- " plying it; though the nauseous taste of it commonly prevents its " being carried far in the first practice. When the practice, how- " ever, is continued, as it is very difficult to avoid some part of it " dissolved in the saliva from going down into the stomach, so this, " with the nausea excited by the taste, makes vomiting more readily " occasioned by this than the other modes of applying it. They are " the strong, and even disagreeable impressions repeated, that give " the most durable and tenacious habits; and therefore the chewing " of tobacco is apt to become one of these: and it is therefore in this

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"way that it is ready to be carried to the greatest excess, and to "show all the effects of the frequent and large use of narcotics. "As it commonly produces a considerable evacuation from the "mouth and fauces, so it is the most powerful in relieving the "rheumatic affection of toothach. This practice is also the occa- "sion of the greatest waste of saliva; and the effects of this in "weakening digestion, and perhaps from thence especially, its "noted effect of producing emaciation may appear.

"These are the effects of the different modes of employing to- "bacco, when it comes to be of habitual use and an article of living. "These effects depend especially upon its narcotic power, and cer- "tain circumstances accidentally attending its application to the "nose and mouth: but as we have observed before, that beside its "narcotic, it possesses also a stimulant power, particularly with "respect to the alimentary canal: by this it is frequently employ- "ed as a medicine for exciting either vomiting or purging, which "it does as it happens to be more immediately applied to the "stomach or to the intestines.

"An infusion of from half a dram to a dram of the dried leaves, "or of these as they are commonly prepared for chewing, for an "hour or two, in four ounces of boiling water, affords an emetic "which has been employed by some practitioners, but more com- "monly by the vulgar only. As it has no peculiar qualities as an "emetic, and its operation is commonly attended with severe sick- "ness, it has not been, nor is it likely ever to come into common "practice with physicians.

"It is more commonly employed as a purgative in glysters; and, "as generally very effectual, it is employed in all cases of more "obstinate costiveness; and its powers have been celebrated by "many authors. I have known it to be in frequent use with some "practitioners; and it is indeed a very effectual medicine, but at- "tended with this inconvenience, that when the dose happens to be "in any excess, it occasions severe sickness at stomach; and I have "known it frequently occasion vomiting."

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" It is well known, that in cases of obstinate costiveness, in ileus " and incarcerated hernia, the smoke of burning tobacco has been " thrown into the anus with great advantage. The smoke operates " here by the same qualities that are in the infusions of it above " mentioned; but as the smoke reaches much further into the intes- " tines than injections can commonly do, it is thereby applied to a " larger surface, and may therefore be a more powerful medicine " than the infusions. In several instances, however, I have been " disappointed of its effects, and have been obliged to have recourse " to other means.

" The infusion of tobacco, when it is carried into the blood-ves- " sels, has sometimes shown its stimulant powers exerted in the kid- " neys; and very lately we have had it recommended to us as a " powerful diuretic of great service in dropsy. Upon the faith of " these recommendations we have now employed this remedy in " various cases of dropsy, but with very little success. From the " small doses that are proper to begin with, we have hardly observed " any diuretic effects; and though from larger doses they have in " some measure appeared, we have seldom found them consider- " able: and when, to obtain these in a greater degree, we have " gone on increasing the doses, we have been constantly restrained " by the severe sickness at stomach, and even vomiting, which they " occasioned: so that we have not yet learned the administration of " this remedy so as to render it a certain or convenient remedy in " any cases of dropsy.

" The same circumstances have occurred to several other practi- " tioners of this city and neighbourhood; and of late the trials of it " have been very generally omitted, owing perhaps to our practi- " tioners being directed at the same time to the use of the digitalis, " with which they have had some more success.

" From some experiments we are certain that tobacco contains a " quantity of volatile parts that may be dissipated by long boiling " in water; and that by such a practice its emetic, purgative, and " narcotic qualities may be greatly diminished; and we are of

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"opinion that the preparation in extract, as prescribed in the "Wirtenberg dispensatory, is upon a good foundation, and may "be employed in pectoral cases with more advantage and safety "than the simple infusion or decoction made by a short boiling "only.

"When we were restrained in employing the infusion of tobacco "as a diuretic, as mentioned, we expected to succeed better with "the decoction; and I have found, that by long boiling this might "be given in much larger doses than the infusion: but we still "found it retaining so much of the emetic quality, that we could "not employ it as a diuretic without being interrupted in its use, "by the same emetic quality that had interrupted the use of the "infusion.

"Besides the internal uses of tobacco mentioned, I must now "remark, that it has likewise been commended for its virtues as "externally employed. I have known the infusion employed with "advantage as a lotion for some obstinate ulcers: but the many in-"stances of its being absorbed, and proving thereby a violent "poison, dissuade from such a practice; especially as there are "other medicines, of as much efficacy, that may be employed with "much more safety. Bergius recommends it to be employed as a "fomentation in the paraphymosis; but we have had no opportu-"nity of employing it."*

* The preceding quotation has completely anticipated what we have to offer upon the subject of Tobacco. Respecting its poisonous or narcotic effects we shall subjoin the following references:—*Ephem. Nat. Cur. Dec.* 2. *Ann.* 10. *Obs.* 131. *p* 222. we are told, that by the immoderate use of snuff, somnolency, and at length fatal apoplexy, was induced. *Hellwig Obs. Phys. Med. p.* 45. gives two instances of the same kind, occasioned by smoaking 17 or 18 pipes of Tobacco. For the effects of Tobacco, by absorption from its external use, see *Eph. cit. Ann.* 4. *p.* 46. *et Ann.* 2. *Obs.* 108. *p.* 262. *Alston's M. M. vol. ii. p.* 190. The oil of Tobacco applied to a wound, is said by Redi to be as fatal as the poison of a viper. See *Experim. Nat. p.* 8. 50. 315. Albinus however did not find that this was the case with the different animals on which he tried the experiment. *Diss. de Tobac. p.* 11. This oil, given to pigeons, produced fatal effects, and was constantly attended with vomiting. *Abbé*

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Fontana. Vide Phil. Trans. vol. lxx. Tobacco, taken by dogs, also produces vomiting. *Gesner. Epist. lib. ii. p. 79.* The smoke of Tobacco has been successfully used in the way of injection, by means of a proper instrument, for obstructions and inveterate constipations of the belly, ever since the time of Sydenham; and Haen, in his Rat. Med. gives several instances of its good effects: it is also recommended in cases of asyphxia, or, what has been termed, suspended animation.

DIGITALIS PURPUREA. COMMON FOX-GLOVE.

SYNONYMA. Digitalis. *Pharm. Lond. & Edinb.* Digitalis foliis calycinis ovatis, galea simplice. *Hal. Stirp. Helv.* no. 330. Virga regia major, flore purpureo. *Cæsalp.* 348. Aralda Bononiensibus. *Gesner.* Digitalis purpurea vulgaris. *Park.* 1653. Digitalis Purpurea. *Gerard. Herb.* 790. *J. Bauh.* II. 811. *Raii Hist.* 767. *Synop.* p. 283. *Flor. Dan.* 774. *Curtis Flor. Lond. Withering's Account of the Fox-glove.*

Varietates. α Digitalis purpurea, folio aspero. *Bauh. Pin.* 243.
β Digitalis alba, folio aspero. *Bauh. Pin.* 244. *Hort. Kew.*

Class Didynamia. *Ord.* Angiospermia. *L. Gen. Plant.* 758.

Ess. Gen. Ch. *Cal.* 5-partitus. *Cor.* campanulata, 5-fida ventricosa. *Caps.* ovata, 2-locularis.

Sp. Ch. D. calycinis foliolis ovatis acutis, corollis obtusis: labio superiore integro.

THE root is biennial, branched, and fibrous; the stalk is erect, simple, tapering, covered with fine hairs or down, and rises commonly to the height of four or five feet; the leaves are large, oval, narrowed towards their points, obtusely serrated, veined, * downy, and stand upon short winged footstalks; the floral leaves or bracteæ

* On the under side these veins form a kind of net-work.

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spear-shaped, sessile, purplish towards the point; the calyx consists of five segments, which are elliptical, pointed, nerved, or ribbed, and the uppermost segment is narrower than the others; the flowers grow in a long terminal spike, chiefly on one side, they are large, monopetalous, pendulous, bell-shaped,[a] purple, and marked on the inside with little eyes, or dark coloured dots, placed in whitish rings; the tubular part appears inflated, and almost cylindrical, but swelling towards the base, and opening at the limb into four irregular, short, obtuse segments, of these the uppermost is the shortest, appearing truncated or cut off transversely; the peduncles are round, short, villous, and bend downwards by the weight of the flowers; the filaments are two long and two short, white, crooked, inserted in the bottom of the tube, and crowned with large oval yellow antheræ; the style is simple, and thickening towards the stigma, which is bifid; the germen is oval, and surrounded at the bottom by a small nectarious gland; the capsule is bilocular, and contains many blackish seeds. It grows commonly about road sides and hedges, especially in dry gravelly soils, and flowers in June and July.

The leaves of Fox-glove have a bitter nauseous taste, but no remarkable smell; they have been long used externally to sores and scrophulous tumours with considerable advantage. Respecting the internal use of this plant we are told of its good effects in epilepsy, scrophula, and phthisis; but the incautious manner in which it was employed rendered it a dangerous remedy: thus we find Ray (after reciting the case of epilepsy cured by it, as mentioned by Parkinson,) says, "Verum medicamentum hoc robustioribus tantum convenit, siquidem violenter admodum purgat & vomitiones immanes excitat:"[b] and others, speaking of its successful exhibition in scrophula, remark, "Sed ob nimiam remedii vehementiam, continuationem ejus necessariam detrectavit."[c] Yet while Digitalis was generally known to possess such medicinal activity, its diuretic

[a] The flowers bear some resemblance to the finger of a glove; hence the name Digitalis.

[b] Raii Hist. p. 767. [c] Vide Murray's Ap. Med. vol. 1. p. 192.

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effects, for which it is now deservedly received in the Materia Medica, were wholly overlooked; that to this discovery Dr. Withering has an undoubted claim, and the numerous cases of dropsy, related by him and other practitioners of established reputation, afford incontestible evidence of its diuretic powers, and of its practical importance in the cure of those diseases.[d] From Dr. Withering's extensive experience of the use of the Digitalis in dropsies, he has been enabled to judge of its success by the following circumstances:—"It seldom succeeds in men of great natural strength, of tense fibre, of warm skin, of florid complexion, or in those with a tight and cordy pulse. If the belly in ascites be tense, hard, and circumscribed, or the limbs in anasarca solid and resisting, we have but little hope. On the contrary, if the pulse be feeble, or intermitting, the countenance pale, the lips livid, the skin cold, the swollen belly soft and fluctuating, the anasarcous limbs readily pitting under the pressure of the finger, we may expect the diuretic effects to follow in a kindly manner."[e] Of the inferences which he deduces, the fourth is, "that if it (Digitalis) fails, there is but little chance of any other medicine succeeding." Thus we are to infer, that men of great natural strength, and under the other circumstances just mentioned, when affected with dropsy, have little to hope for from the use of this diuretic, and still less from any other medicine.[f] As this observation is the result of experience, and of considerable practical consequence, we wish particularly to press it on the attention of the medical reader. Although the Digitalis is now generally admitted to be a very powerful diuretic, and many cases may be adduced of its successful use[g] in addition to those

[d] See his account of the Fox-glove, published 1785; a book, which, in the opinion of Dr. Cullen, "should be in the hands of every practitioner of physic." (M. M.)

[e] l. c. p. 189. & seq. [f] In such cases Dr. W. attempts to induce a change in the constitution, and thereby to fit it for the action of the Digitalis. Would not repeated purging, according to Sydenham's plan, succeed best in these cases?

[g] The author could bring many instances were it necessary, of the good effects of the Digitalis: a clinical patient at Guy's Hospital, treated by Dr. Relph last winter, afforded a striking proof of the efficacy of this medicine in hydrothorax.

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already published, yet it is but justice to acknowledge that this medicine has more frequently failed than could have been reasonably expected, from a comparison of the facts stated by Dr. W.[h]— "The dose of the dried leaves, in powder, is from one grain to three twice a day. But if a liquid medicine be preferred, a dram of the dried leaves is to be infused for four hours in half a pint of boiling water, adding to the strained liquor an ounce of any spirituous water. One ounce of this infusion, given twice a day, is a medium dose. It is to be continued in these doses till it either acts upon the kidneys, the stomach, the pulse, (which it has a remarkable power of lowering) or the bowels."

[h] Among the principal of the unsuccessful cases we may notice the eight fatal ones related in the Medical Memoirs by Dr. Lettsom. In reply to these cases, Dr. Withering sent me the following Letter, * which is published by the permission of Dr. Lettsom, who authorizes me to say, that as his only object in this business is the investigation of truth, he willingly appeals to the justice and candour of the public, how far his practice is fairly represented in Dr. Withering's letter:

SIR, * Please to accept my thanks for your offer of inserting any thing new which I might have to say respecting the Digitalis; but I really have nothing new to observe, nor have I any thing to retract of what I have said before. Under my own management, under that of the medical practitioners in this part of England, and I may add, also in the hands of some worthy and respectable Clergymen in village situations, it continues to be the most certain, and the least offensive diuretic we know; in such cases, and in such constitutions, as I have advised its exhibition. I have also the satisfaction to find, by letters from some of the most eminent Physicians in different parts of England, that it is equally useful and safe in their hands. But I complain of the treatment this medicine has had in London. Its ill success there cannot be altogether owing to difference of constitutions. Dr. Lettsom has related his unsuccessful attempts with a degree of courage, and of candour, which do the highest honour to his integrity;* but no one can compare his choice of patients, with my declarations of the fit and the unfit, or the doses he prescribed, and the perseverance he enjoined, with my doses, rules, and cautions,‖ without being astonished that he could suppose he had been giving this medicine "in the manner prescribed "by me." †——I am fully satisfied, that, had I prescribed it in such cases, such forms, such doses, and such repetitions as he has done, the effects would, in my hands, have been equally useless, and equally deleterious. I must therefore suppose,

* Memoirs of the Med. Society of London, vol. II. p. 145. ‖ Account of the Fox-glove p. 181, 184, et seq.
† Memoirs of the Medical Society of London, vol. II. page 169.

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that he had forgotten what I had written, without being conscious that his memory had deceived him. Had it been otherwise, after perusing the cases I had published at pages xx. and pages 151, &c of my Account, &c. he would hardly have thought it necessary to have published more instances of what I had stigmatized as *bad practice*; or to have sought for further proofs, that an active and useful medicine might be employed so as to prove a deleterious poison.

STRYCHNOS NUX VOMICA. VOMIC NUT, or POISON NUT.

SYNONYMA. Nux vomica. *Pharm. Dale.* 327. *Alston. ii.* 37. *Lewis.* 453. *Bergius.* 144. *Murray. i.* 477. *Edinb. New Dis.* 239. Nux vomica officinarum. *Bauh. Pin.* 511. *Ger. Emac.* 1546. *Park. Theat.* 1601. *Raii. Hist.* 1661. & 1814. Caniram. *Hort. Malab. T. i. t.* 37. *p.* 67. *Burm. Thes. Zeyl.* 171.

Pentandria Monogynia. *Lin. Gen. Plant.* 253.

Gen. Ch. *Cor.* 5-fida. *Bacca* 1-locularis, cortice lignoso.

Sp. Ch. S. foliis ovatis, caule inermi.

THIS large tree sends off numerous strong branches, covered with dark grey smooth bark. The young branches have swelled articulations, or a knotty jointed appearance, scandent, and covered with bark of a dark green colour. The leaves arise at the joints in pairs, upon short footstalks, and are ovate, broad, pointed, entire, with three or five ribs, and on the upper side of a shining green colour. The flowers terminate the branches in a kind of fasciculated umbel. Calyx small, tubular, five toothed. Corolla monopetalous: tube cylindrical, or rather inflated at the middle, very long, and at the limb cut into five small ovate segments. Filaments five, short, fixed at the mouth of the tube, and furnished with simple antheræ. Germen roundish, supporting a simple style, terminated by a blunt stigma. Fruit a round smooth large pulpy berry, externally yellow, and containing round depressed seeds, covered with downy radiated hairs.

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It is a native of the East Indies, and, according to the Hortus Kewensis was introduced into England in 1778, by Dr. Partrick Russel; but it has not yet been cultivated with success in this country. The plate prefixed is taken from a very perfect specimen in the possession of Sir Joseph Banks, to whose liberality every branch of natural knowledge is much indebted, and this work for some of its most valuable figures.

The *nux vomica, lignum colubrinum,* and *faba sancti Ignatii,* have been long known in the Materia Medica as narcotic poisons, brought from the East Indies, while the vegetables which produced them were unknown, or at least not botanically ascertained.

By the judicious discrimination of Linnæus, the Nux vomica was found to be the fruit of the tree described and figured in the Hortus Malabaricus under the name Caniram, now called Strychnos. To this genus also, but upon evidence less conclusive, he likewise justly referred the colubrinum.[a] But the faba sancti Ignatii he merely conjectured might belong to this family, as appears by the query *an Strychni species?*[b] which subsequent discoveries have enabled us to decide in the negative; for in the Supp. plant. it constitutes the new genus Ignatia, which Loureiro has lately confirmed, changing the specific name amara to that of philippinica.[c] The Strychnos and Ignatia are however nearly allied, and both rank under the order Solanaceæ.

We have thought it necessary to inquire thus far into the botanical origin of these productions, from finding that by medical writers they are generally treated of under the same head, and in a very confused and indiscriminate manner.

The seed of the fruit or berry of this tree is the officinal nux vomica: it is flat, round, about an inch broad, and near a quarter of an inch thick, with a prominence in the middle on both sides, of a grey colour, covered with a kind of woolly matter, and internally hard and tough like horn; to the taste it is extremely bitter, but has no remarkable smell. It consists chiefly of a gummy matter, which

[a] Contendunt Indiæ Botanici hanc a S. Nuce vomica non esse diversam. *Supp. Plant.* 149. [b] Vide *Mat. Med. Lin.* [c] *Flor. Cochin.* 125.

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is moderately bitter; the resinous part is very inconsiderable in quantity, but intensely bitter; hence rectified spirit has been considered its best menstruum.[d]

Nux vomica is reckoned amongst the most powerful poisons of the narcotic kind, especially to brute animals, nor are instances wanting of its deleterious effects upon the human species. It proves fatal to dogs in a very short time, as appears by various authorities.[e] Hillefeld and others found that it also poisoned hares, foxes, wolves, cats, rabbits, and even some birds, as crows and ducks;[f] and Loureiro relates that a horse died in four hours after taking a dram of the seed in an half-roasted state. The effects of this baneful drug upon different animals, and even upon those of the same species, appear to be rather uncertain, and not always in proportion to the quantity of the poison given.[g] With some animals it produces its effects almost instantaneously; with others not till after several hours, when laborious respiration, followed by torpor, tremblings, coma, and convulsions, usually precede the fatal spasms, or tetanus, with which this drug commonly extinguishes life.

From four cases related of its mortal effects upon human subjects,* we find the symptoms corresponded nearly with those which we have here mentioned of brutes; and these, as well as the dissections of dogs, killed by this poison, nor shewing any injury done to the stomach, or intestines, prove that the Nux vomica acts immediately upon the nervous system, and destroys life by the virulence of its narcotic influence.

The quantity of the seed necessary to produce this effect upon a strong dog, as appears by experiments, need not be more than a scruple:[h] a rabbit was killed by five and a cat by four grains: and of

[d] Junghanns *diss. de Nuce vom. &c.*

[e] Heyde. *Observ.* 50 *p.* 116. Seutter. *Diss. de Nuce vomica.* Courten. *Phil. Trans.* Wepfer. *De Cicuta.* 194. Brunner. ibd. Loss. *Diss. de Nuce vomica.* Hillefeld. *Diss. Experim. circa venena.* Gesner. *Epist.* 33.—[f] *Hillef. l. c. Loss. l. c. Brunner. l. c.*

[g] It was given in a large quantity to a swine without producing any effect. *Loss. l. c.*

* Vide *Matthiol. in Dioscor. Lib.* 4. *Fred. Hoffman. Phil. corp. human. morbos. P. c. viii.* §. 8. *Seutter. l. c. Linn. & Tillæus de feb. intermit. cur. p.* 40. [h] Hillef.

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the four persons to whom we have alluded, and who unfortunately perished by this deleterious drug, one was a girl ten years of age, to whom 15 grains were exhibited at twice for the cure of an ague. Loss, however, tells us that he took one or two grains of it in substance without discovering any bad effect; and that a friend of his swallowed a whole seed without injury.

In Britain, where physicians seem to observe the rule *saltem non nocere*, more strictly than in many other countries, the Nux vomica has been rarely if ever employed as a medicine. On the Continent, however, and especially in Germany, they have certainly been guided more by the axiom "what is incapable of doing much harm, is equally unable to do much good." The truth of this remark was lately very fully exemplified by the practice of Baron Stoerck; and is farther illustrated by the medicinal character given of Nux vomica, which, from the time of Gesner till that of a modern date, has been recommended by a succession of authors, as an antidote to the plague,[i] as a febrifuge,[k] as a vermifuge,[l] and as a remedy in mania,[m] hypochondriasis,[n] hysteria,[o] rheumatism,[p] gout,[q] and canine madness.[r]

In Sweden it has of late years been successfully used in dysentery;[s] but Bergius,[t] who tried its effects in this disease, says, that it suppressed the flux for twelve hours, which afterwards returned again. A woman, who took a scruple of this drug night and morning, two successive days, is said to have been seized with convulsions and vertigo, notwithstanding which the dysenteric symptoms returned, and the disorder was cured by other medicines; but a pain in the stomach, the effect of the Nux vomica, continued afterwards for a long time. Bergius therefore thinks it should only be administered in the character of a tonic and anodyne in small doses,

[i] *Gesner. Epist. p.* 144. [k] *Wedel. Amœn. Mat. Med. p.* 337. *Buchner. Ph. Brand.* 61. *Hartman. De Cicuta. &c. p.* 17. [l] *Schulz. M. M.* 404. [m] *Albinus, cited by Alston. l. c.* [n] *Buchner. l. c.* [o] *Ibid.* [p] *Wiel. Diss. de usu Nuce vom. et vitr. alb. p.* 17. [q] *Ibid.* [r] *Schultz. l. c.* [s] By Hagstrom, Odhelius, Dahlberg. [t] *L c.*

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(from 5 to 10 grains) and not till after proper laxatives have been employed.

Loureiro recommends it as a valuable internal medicine in fluor albus, for which purpose he roasts it till it becomes perfectly black and friable, which renders its medicinal use safe without imparing its efficacy.

CAPSICUM ANNUUM. ANNUAL CAPSICUM, Or, GUINEA PEPPER.

SYNONYMA. Piper indicum. *Pharm. Lond. & Edinb.* Piper Indicum vulgatissimum. *Bauh. Pin. p.* 102. *Raii Hist. p.* 676. Piper Calecutium sive Capsicum oblongius. *J. Bauh. Hist. vol. ii. p.* 943. Capsicum longioribus siliquis. *Gerard. Emac. p.* 364. Capsicum majus vulgatius, oblongis siliquis. *Park. Theat. p.* 355. Capsicum indicum. *Burm. Thes. Zeyl. p.* 53.

α Capsicum siliquis longis propendentibus. *Tourn. Inst.* 152. *Long-Podded Capsicum.*

β Capsicum caule herbaceo, fructu rotundo glabro. *Mill. Dict. Cherry Capsicum.*

γ Capsicum caule herbaceo, fructu ovato. *Mill. Dict. Olive Capsicum.* *Aiton. Hort. Kew. vol. i. p.* 253.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 252.

Ess. Gen. Ch. *Cor.* rotata. *Bacca.* exsucca.

Sp. Ch. C. caule herbaceo, pedunculis solitariis.

THE root is annual: the stem is thick, roundish, smooth, crooked, branched, and rises four or five feet in height: the leaves are elliptical or egg-shaped, pointed, veined, smooth, and placed in no regular order upon long footstalks: the flowers are solitary, white,

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and stand at the axillæ of the leaves upon long peduncles: the calyx is persistent, angular, tubular, and cut at the extremity into five short segments: the corolla is monopetalous, wheel-shaped, consisting of a short tube, divided at the limb into five segments, which are spreading, pointed, and plaited: the five filaments are short, tapering, and furnished with oblong antheræ: the germen is egg-shaped, and supports a slender style, which is longer than the filaments, and terminated by a blunt stigma: the capsule is a long conical pod, or berry, of a shining reddish colour, separated into two cells, which contain several flattish kidney-shaped seeds. It is a native of both Indies, and flowers in June and July.

This species, and all its varieties noticed above, were cultivated by Gerard, and are now commonly produced in the garden stoves of this country: the fruit varies both in shape and colour, but that which is of a conical form, and of a reddish or orange colour, is preferred. Its taste is extremely pungent and acrimonious, setting the mouth as it were on fire, and this sensation is of considerable duration. "It gives out its pungency to rectified spirit, together with a pale yellowish red tincture: the spirit, gently distilled off, has no considerable impregnation from the capsicum: the remaining extract is insupportably fiery."[a]

The use of this and the other species of Capsicum, which have long been employed for culinary purposes, have but lately been adopted as a medicine. Cayenne pepper, which is now much used at our tables, is the fruit of Capsicum baccatum of Linnæus, (Bird-pepper) and differs not materially in its effects from that of the species here figured, for which it is frequently substituted. In hot climates, particularly in the West Indies,[b] and in some parts of Spanish America, the Capsicum is eaten both with animal and vegetable food in large quantities, and it enters so abundantly into their sauces, that to a person unaccustomed to eat them, their taste is intolerably hot.[c] But in the climates of which the Capsicum is

[a] *Kewis, M. M. p.* 508. [b] Vide *Browne's Jamaica, p.* 176.

[c] At Peru especially. Vide, *Frezier Voyage de la Mer du Sud. t.* 1. *p.* 262.

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a native, we are told that the free use of it is a salutary practice, being found to strengthen the stomach, assist digestion, and correct that putrescent colliquation of the humours so common in hot climates. As an aromatic of the most acrid and stimulant kind it certainly may be found efficacious in some paralytic and gouty cases, or to promote excitement, where the bodily organs are languid and torpid.

It has been successfully exhibited in cynanche maligna, and in what by Dr. Mackitrick calls cachexia africana,[d] which he considers as the most frequent and fatal predisposition to disease among negroes. The dose he directs is from six to eight grains.

Bergius gave the seeds of Capsicum with great success in inveterate intermittents.[e]

[d] *Duncan's Ed. Dispens. p.* 257.

[e] He prescribes them as follows:

℞ sem. pip ind g^{r} vi. bacc. lauri scrup. ii. f. pulvis, divedendus in tres partes æquales; quarum prima portio sumenda incipiente primo rigore; secunda postridie eadem hora; tertia vero tertio die. *M. M. p.* 144.

PHYSALIS ALKEKENGI. COMMON WINTER CHERRY.

SYNONYMA. Alkekengi seu Halicacabum. *Pharm. Geoff. iii.* 55. *Dale.* 172. *Alston. ii.* 254. *Rutty.* 13. *Cullen. ii.* 553. *Bergius.* 130. *Marray. i.* 463. *Lewis.* 30. *Ed. New Dispens.* 120. *Gerard. Emac.* 342. *Ray. Hist.* 681. *Hall. Stirp. Helv. n.* 597. Solanum vesicarium. *Bauh. Pin.* 166. *Park. Theat.* 462.

Pentandria Monogynia. *Lin. Gen. Pl.* 250.

Gen. Ch. *Cor.* rotata. *Stam.* conniventia. *Bacca* intra calycem inflatum, bilocularis.

Sp. Ch. P. foliis geminis integris acutis, caule herbaceo inferne subramoso.

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THE root is perennial, long, creeping, fibrous. Stalks annual, round, crooked, smooth, simple, about a foot high. Leaves in pairs, upon footstalks, of an irregular shape, undulated, pointed, veined, entire. Calyx persistent, becoming a large orbicular inflated pentangular membrane inclosing the fruit; segments five, pointed. Corolla monopetalous, wheel-shaped; tube very short; limb five-parted; segments five, broad, short, pointed. Filaments five, small, tapering, approaching together: antheræ erect: germen roundish: style filiform, longer than the filaments, terminated by a blunt stigma. Fruit a red round two-celled berry, inclosed in the calyx, and containing numerous flat kidney-shaped seeds.

This plant, which is a native of the South of Europe, is not unfrequently found in the gardens of this country, in which it has been cultivated ever since the days of Gerard, in 1597. It flowers from July till September, and ripens its fruit in October.

The berries of the Alkekengi, commonly called Winter Cherries, were well known to the ancients, and are characteristically described by Dioscorides.*

They have an acidulous and not unpleasant taste, followed by a slight bitterness, which they are said to derive in a considerable degree from the investing calyx, if not gathered with great care.[a]

Winter Cherries, though esteemed to be detergent and aperient, have been chiefly recommended in the character of a diuretic in suppressions of urine, and for removing obstructions occasioned by gravel or mucous. With this intention, from six to twelve cherris, or an ounce of their expressed juice, have been the dose usually employed: there seems, however, to be no danger from a much larger quantity; for in some parts of Germany we are told that the country people eat them by handfuls with much benefit:[b] and in Spain and Switzerland[c] they frequently supply the place

* See Στρυχνον αλικακαβον.

[a] *Lewis. l. c.* [b] *C. Hoffman. De Medicam. off. L. 2. c. 217.*

[c] *Quer. Flor. Espann. Tom. ii. p. 224. Hall. l. c.*

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of other eatable fruits. Ray informs us, that a gouty person prevented the returns of the disorder by taking eight of these cherries at each change of the moon:[a] we find also instances related of their good effects in dropsical and calculous complaints,[b] but at present they are wholly disregarded.

[a] *L. c.* [b] See *Lôseke, Arnold. de Villa Nova, & Lister*, as cited by Murr. l. c.

ATROPA BELLADONNA. DEADLY NIGHTSHADE.

SYNONYMA. Belladonna, *Pharm. Edinb.* Belladonna trichotoma, *Socop. Carn.* 1. p. 160. Belladonna caule herbaceo, brachiato, foliis ovato-lanceolatis, integerrimis. *Hal. Stirp. Helv.* N. 579. Solanum Lethale, *Clus. Hist.* p. 86. *Dod. purg.* p. 360. Solanum Melanocerasus, *Bauh. Pin.* 166. Solanum majus, *Cam. epit.* p. 817.

Class Pentandria. *Order* Monogynia. L. *Gen. Plant.* 249.

Ess. Gen. Ch. *Cor.* campanulata. *Stam.* distantia. *Bacca*, globosa, 2-locularis.

Sp. Ch. Atropa Belladonna, caule herbaceo, fol. ovatis integris.

THE Belladonna has a thick whitish root, which is perennial, and sends forth strong, branched, annual, purple-coloured stems, from three to five feet high. The leaves are of unequal size, entire, oval, pointed, and stand in pairs upon short footstalks. The flowers are of a dark or brownish purple colour, large, pendent, bell-shaped, furrowed, and the limb cut into five segments. The whole plant is covered with fine hairs or down: the flowers appear in June or July, but the berries are not ripe till September, when they acquire a shining black colour. It grows in shady and stony waste grounds, but it is not very common near London.

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Whether this plant is the Στρυχνος μανικος of Dioscorides or not, botanists have not yet ascertained, but it has certainly been long known as a strong poison of the narcotic kind; and the berries, though less powerful than the leaves, furnish us with many instances of [a] their fatal effects, particularly upon children, who are readily

[a] Sennert. lib. vi. par. 7. cap. 9. Lobel Stirpium Adversa. p. 103. Matthiolus Oper. Omn. p. 754. Oetinger de Belladonna. Aug. Vindel. Strychnomania, &c. Bodaeus à Stapel. Comment. in Theophrast. 586. Simon Pauli Quad. Botan. p. 488. Gerard's Herbal, 341. Wepfer's Cicut. Aquat. Histor. et Noxæ, p. 228. Boulduc. Histoire de l'Acad. a. 1703. Rossi Plant. Venen. p. 11. Boerhaave's Hist. Plant. Lugd. Bat. Hort. p. 510. Journ. de Med. ann. 1759. Gent. Magaz. 1747. & 1748. Hill's British Herbal, p. 329. Spielman's Diss. Veget. Venen. p. 16. Mapp. Pl. Alsat. p. 36. Murray's Apparat. Medicam. p. 431. Many other recent facts of the same kind might be adduced from various periodical publications. Ray found by applying the leaves of the Belladonna near the eye, a remarkable relaxation of the uvea was produced. Sauvages *(Nosol)* supposes that the Belladonna was the plant which produced such strange and dreadful effects upon the Roman soldiers, during their retreat (under the command of Anthony) from the Parthians; they are said to have "suffered "great distress for want of provisions, and were urged to eat unknown plants: "among others they met with an herb that was mortal; he that had eaten of it, lost "his memory and his senses, and employed himself wholly in turning about all the "stones he could find, and after vomiting up bile, fell down dead." Plutarch Life of Anthony.——The Scotch historian, Buchanan, relates that the Scots mixed a quantity of the juice of the Belladonna (Solanum Somniferum) with the bread and drink, which by their truce they were to supply the Danes with, which so intoxicated them, that the Scots killed the greatest part of Sweno's army while asleep. Lib. vii.

Ray relates a curious instance of the effects of this plant in the following words: Hist. Plant. p. 680. Accidit, ni fallor, tempore Pontificis Maximi Urbani ultimi, ut quidam de famulitio Cardinalis magni nominis (ut mihi hîc Augustæ retulit ejus hortulanus) infunderet in vino Malvatico herbam illam quam Bellam Donnam vocant, daturam aliàs per noctem ut ejus herbæ effectus discerent; infusum hoc propinarunt cuidam fratri mendicanti ex conventu S. Hieronymi, qui Patavii Fratrum ignorantiæ dicitur, à primo breve delirium, cachinni, gesticulationes variæ; dein insania vera, post stupor mentis qualis est ebriorum vigilantium. Cardinalis pro ebrio in carcere includit; deinde à medico qui rem subolfecerat innocens pronuntiatur, qui aceti cyatho propinato, a dementia quam Bella Donna causavit eum liberat. Hachstellerus Decad. V. Ob. And Shakespeare in his Mackbeth makes Banquo say,

Or have we eaten of the insane root
That takes the reason prisoner.

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tempted to eat this fruit by its alluring appearance and sweet taste. The number of these berries necessary to produce deleterious effects, may probably depend upon the state of maturity in which they are eaten: if not more than three or four be swallowed, according to Haller's account, no bad consequence ensues;— "Baccæ sapore fatuo dulci possunt absque noxa edi [b] si numerus "tres quatuorve non excesserit: plures etiam a studioso medicinæ "Coloniensi nomine Simonis vidi deglutiri." Hal. Stirp. Helv. No 579.

But when a greater number of the berries are taken into the stomach, scarcely half an hour elapses before violent symptoms supervene; viz. vertigo, delirium, great thirst, painful deglution, and retching, followed by furor, stridor dentium, and convulsions; the eye-lids are drawn down, the uvea dilated and immovable; the face becomes red and tumid, and spasms affect the mouth and jaw; the general sensibility and irritability of the body suffer such great diminution, that the stomach often bears large and repeated doses of tart. emet. (gr. 14.) without being brought into action; the pulse is small, hard, quick, and subsultus tendinum, risus sardonius & coma, generally precede death. The body being opened, inflammation has been discovered in the intestines, mesentery, and liver, Comm. Nor. 1743. p. 61. And Boulduc, Hist. de l'Acad. des Sc. de Paris, 1703, p. 56. found the stomach of a child eroded in three places. It may be necessary to remark, that vinegar, liberally drunk, has been found very efficacious in obviating the effects of this poison; evacuations should however be always first promoted.

The leaves of the Belladonna were first used externally to discuss scirrhous and cancerous tumours, and also as an application to ill conditioned ulcers: their good effects in this way at length induced physicians to employ them internally for the same disorders, and we have a considerable number of well authenticated facts which

[b] Hort, Florent. p. 62.

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prove them a very serviceable and important remedy.[c] But it must likewise be confessed, that many cases of this sort have occurred in which the Belladonna has been employed without success:[d] this, however, may be said of every medicine; and though Dr. Cullen repeatedly experienced its inefficacy, yet the facts he adduces in confirmation of the utility of this plant, are clear and decisive: "I have had a cancer of the lip entirely cured by it; a scirrhosity "in a woman's breast, of such a kind as frequently proceeds to "cancer, I have found entirely discussed by the use of it; a sore "a little below the eye, which had put on a cancerous appearance, "was much mended by the internal use of the Belladonna: but "the patient having learned somewhat of the poisonous nature "of the medicine, refused to continue the use of it, upon which "the sore again spread, and was painful; but upon a return to the "use of the Belladonna, was again mended to a considerable de-"gree: when the same fears again returning, the use of it was "again laid aside, and with the same consequence of the sore be-"coming worse. Of these alternate states, connected with the "alternate use of, and abstinence from, the Belladonna, there "were several of these alternations which fell under my own ob-"servation."

[c] Junker's Conspect. Ther. Gen. Ed. 1725. p. 491. Journ. de Med. ann. 1766. Timmermann's Progr. Mich. Albertus de Belladonna. Tib. Lambergen, stated in the Phil. Trans. vol. 50. by Mr. Pultney. Comment. de Rebus, tom. 8. p. 654. Durlac Journ. de Med. t. 11. p. 449. Amoureux, l. c. tom. 13. p. 47. Marteau. l. c. tom. 14. p. 11. van den. Block. l. c. tom. 14. p. 108. Ludw. Advers. Pract. vol. 1. P. 4. p. 637. and vol. 2. 314. To which we may add the later authorities of Bergius, (Mat. Med. p. 128. vol. 1.) and Murray, App. Med. vol. 1. p. 440. who used them successfully in convulsions and epilepsy. The good effects of the berries may be learned from Gesner, Epist. p. 34. Eph. N. C. ann. 3. Obs. 64. Smetius, lib. 4. p. 238. Mayerne Prax. Med. Syntagm. Alt. p. 136.

[d] Heister Chirurgie, p. 328. Van. Der. Harr. *over de Knierknoest-en Kanker Gezwellen*, p. 85. Van. Dovern. in litt. ad. Timmermann *Progr.* Timmermann junr. ibid. Acrel. *Chir. Händelser.* p. 40. De Haen Rat. Med. tom. 2. p. 45t Schmuckero Chirurg. Wahrnehmungen, tom. 2. p. 150. And some accounts given of this plant by our own countrymen Gataker and Bromfield.

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The sensible effects produced by the leaves of this plant taken in medicinal doses, are usually by the skin, the urinary passages, and sometimes by stool; in larger doses troublesome dryness of the mouth and throat, giddiness, and dimness of sight are experienced.

That the advantages derived from the internal use of Belladonna are only in proportion to the evacuations effected by it, is a conclusion we cannot admit as sufficiently warranted by the facts adduced upon this point.

As this plant is very uncertain in its operation, the proper dose is with difficulty ascertained; the most prudent manner of administering it is by beginning with one grain or less, which may be gradually increased according to its effects. Six grains are considered as a very large dose.—With respect to the berries, so successfully employed as an anodyne, by Gesner and others, in dysenteries, a small spoonful (coch. parvum) of a syrup of the juice was the dose given.

The root seems to partake of the same qualities as the leaves, but is less virulent.

ATROPA MANDRAGORA. MANDRAKE.

SYNONYMA. Mandragora. *Pharm. Geoff. iii.* 808. *Dale.* 170. *Alston. i.* 478. *Rutty.* 306. *Bergius.* 126. *Murray. i.* 441. *Edinb. New Disp.* 225. Mandragora fructu rotundo. *Bauh. Pin.* 169. *Ray. Hist.* 668. M. fructu majore. *Hist. Oxon. iii.* 531. Mandragoras mas. *Ger. Emac.* 352. *Park. Theat.* 343. Conf. *Miller's Figures, t.* 173.

Sp. Ch. A. acaulis, scapis unifloris.

ROOT perennial, large, fusiform, three or four feet long, externally brown, internally whitish. Leaves radical, sessile, ovate, entire, veined, pointed, waved, smooth, at first erect, but on attaining their full size resting upon the ground. There is no stem.

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Flowers whitish, each standing upon a simple stalk, or scapus, which rises from the crown of the root. Calyx quinquifid; segments pointed, persistent. Corolla bell-shaped; tube very short; limb divided into five acute spreading segments. Filaments five, tapering, hairy, inserted at the base of the corolla, at the top diverging, and furnished with erect yellow antheræ. Germen round: style filiform, of the length of the filaments, and crowned with a round stigma. Fruit a large round two-celled berry, of an orange colour, containing many kidney-shaped seeds.

Its flowers appear in March and April.

This plant is a native of the southern parts of Europe: it is not a stranger to our English gardens, in which it was cultivated by Turner in 1562.[a]

The superstitious and absurd stories formerly told of the Mandrake would not now for a moment impose upon the most credulous and ignorant: the great resemblance of some of the roots to the human form, the danger of taking them out of the ground, and their surprising effects, were all the invention of charlatanical knavery and imposture.[b]

The roots of Mandrake vary both in form and colour, being either divided or entire, and externally brown or black; hence they have been distinguished into male and female: the internal substance is white, and to the taste somewhat viscid, bitter, and nauseous.

All the ancient writers on Mandrake represent this root to be an anodyne and soporific, but in large doses it is said to excite maniacal

[a] *Hort. Kew.*

[b] Ferunt has præstantissimas radices ex urina suspensi hominis sub partibulo morientis irrigatas tales efformari, & ideo adeo raras esse, easdem non sine vitæ periculo manu effodi, quapropter eas primum circumfodiendas esse, ita ut minimum ex radice terra sit conditum, deinde ab ea religandum canem, a quo postea fugiente radix extrahitur & sequitur, sed non adeo longe, quandoquidem statim atque effossa est, canis moritur: nullum postea accipientibus amplius metum esse, imo summe proficuas esse, maleficia & infortunia quæcunque avertendo, & felicitates quascunque desiderabiles afferendo. *Geoff. l. c.* See also Matthiol. and others.

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fury.[c] They employed it principally in continued watchings, and in those more painful and obstinate affections which were found to resist less powerful medicines.[d]

It was also used in melancholia, convulsions, rheumatic pains, scrophulous tumours, &c. and to answer these purposes, either the expressed juice of the cortical part of the root, inspissated, or a vinous decoction, or infusion of the root, was directed.[e]

The leaves of Mandrake, boiled in milk, and used as a cataplasm, are, according to Boerhaave, likewise to be considered as an useful application to indurated tumours.[f]

The root also, employed externally, from the later and less equivocal experience of Hoffberg,[g] was found extremely efficacious in discussing various glandular tumefactions. And in some cases of gout this author tried its effects internally; from which we find that in a dose of three grains it mitigated the pains, which afterwards returned. A similar effect was produced in other cases by a proportionate quantity of the root in the form of a tincture.

These experiments shew that the Mandrake acts as an opiate, which confirms the opinion entertained of it by the ancients; and hence it may be concluded, that, if not administered with great care, it may prove a deleterious and mortal narcotic. This caution is the more necessary, as the berries of Mandrake are said to have been eaten without producing any bad effect.[h]

[c] *Hippocr. de locis in hom. Ed. Foes. p.* 240. *Aretæus. Acut. curat. L. i. cap.* 6. *Cel. Aurel. L. i. c.* 4. [d] *Dioscord. M. M. l.* 4. *c.* 76. [e] *Dios. l. c.*

[f] *Hort. Lugd. Bat. Tom.* 2. 512.

[g] *Vet. Acad. Handl.* 1763. *vol.* 24. *p.* 229. Pallas also mentions it as of frequent use for chronic diseases in some parts of Russia. See *Reise d. Russ. r. Th. p.* 49.

[h] See *Ray. l. c.*

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SOLANUM NIGRUM. GARDEN NIGHTSHADE.

SYNONYMA. Solanum. *Pharm. Dale.* 170. *Rutty.* 489. *Bergius.* 140. *Murray. v. i.* 427. *Lewis.* 608. Solanum officinarum. *Bauh. Pin.* 166. Solanum vulgare. *Park. Theat.* 346. Solanum hortense. *Gerard. Emac.* 339. *Ray. Syn.* 254. *Hist.* 672. Solanum nigrum. *Hall. Helv. n.* 579. *Hudson. Flor. Ang.* 78. *With. Bot. Arr.* 236. *Flor. Dan.* 460. *Curt. Flor. Lond. ii.* 16.

Pentandria Monogynia. *Lin. Gen. Pl.* 251.

Ess. Gen. Ch. *Cor.* rotata. *Antheræ* subcoalitæ, apice poro gemino dehiscentes. *Bacca* 2-locularis.

Sp. Ch. S. caule inermi herbaceo, fol. ovatis dentato-angulatis, racemis distichis nutantibus.

ROOT annual, branched, whitish, hung with numerous small fibres. Stalk above a foot in height, alternately branched, formed into angles by a foliaceous membrane, swelled at the base of each branch, rough, and of a dingy purple colour. Leaves on footstalks, alternate, irregularly ovate, sinuated, or indentated, and clothed with soft hairs. Flowers in a species of umbel, upon a common lateral flower stalk. Calyx divided into five small short permanent segments. Corolla separated into five segments, which are oval, pointed, spreading, and of a whitish colour. Filaments five, short, downy, terminated by yellow oblong contiguous antheræ. Germen roundish, supporting a tapering downy style, furnished with a round stigma. Fruit a round two-celled berry, changing from a green to a black colour, and containing several kidney-shaped yellowish seeds.

It is common about rubbish, dunghills, and in neglected gardens, producing its flowers during all the summer months.

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The smell of this plant is faint and disagreeable; to the taste it manifests no peculiar flavour, being simply herbaceous. It appears to possess the deleterious qualities of the other Nightshades, in a very considerable degree; even the odour of the plant is said to be so powerfully narcotic as to cause sleep.[a]

The berries are equally poisonous with the leaves. Three children, upon eating them, were suddenly seized with cardialgia and delirium, accompanied with spasms, and remarkable distortions of the limbs:[b] and to poultry they proved fatal in a short time.[c]

The plant, or rather the leaves which were boiled and eaten by a mother and four children, produced swellings of the face and limbs, followed by inflammation and gangrene; but the husband, who likewise ate of this vegetable at the same time, found no consequent disorder.[d]

Its deleterious effects appear still more certain from the experiments of Messrs. Gataker and Bromfield; the latter asserts that in doses of one grain it had a mortal effect upon one of his patients.[e]

As this species of Nightshade is thought to be the στρυχνος κηπαιος of Dioscorides,[f] its external use was resorted to in ancient times as a discutient and anodyne in various affections of the skin, tumefactions of the glands, ulcers, and disorders of the eyes; nor does the utility of this practice want the confirmation of later experience.[g]

[a] *Boccone. Museo di fis. p.* 284. [b] Vide *Wepfer De cicut. p.* 226.

[c] *Haller. l. c.* [d] *Rucker. Commerc. Noric.* 1731. *p.* 372.

[e] It ought to be remarked, however, that Dioscorides and Theophrastus mention it as an esculent plant; and Guerin (*de vegetat. venen. Alsatiæ.* 1766. *p.* 66.) relates that he drank an infusion of fifteen grains of the Solanum nigrum without suffering any consequent complaint; and that an epileptic patient took from half a dram to two drams of the expressed juice of the plant without perceiving any narcotic symptom to follow; nor with some soldiers, to whom a still larger dose was given, together with two drams of the juice of the berries, was any other effect produced than that of an increased quantity of urine. See *Murray. l. c.*

[f] *Mat. Med. Lib.* 4. *c.* 71.

[g] With the Arabians it is a common application to burns and ulcers. See *Forskal. Descript. plant. c.* 2. *p.* 46. Ray also speaks highly of its effects in indurations of the breast. See *Hist. l. c.*

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Of its internal use we find very little evidence in the writings of the ancients; though, according to Cæsalpinus,[h] it appears not to have been wholly neglected.

In the year 1757, Mr. Gataker, surgeon to the Westminster Hospital, called the attention of the faculty to this plant, by a publication[i] recommending its internal use in old sores, scrophulous, and cancerous ulcers, cutaneous eruptions, and even in dropsies; all of which were much relieved, or completely cured, by the Solanum. It appears from his experiments, that one grain of the dried leaves of the plant, infused in an ounce of water, sometimes produced a considerable effect; that in the dose of two or three grains it seldom failed to evacuate the first passages, or to increase very sensibly either the discharge by the skin, or that by the kidneys, and it not unfrequently occasioned head-ach, giddiness, dimness, and drowsiness. Mr. Gataker's pamphlet was soon followed by another, published on the same subject by Mr. Bromfield,[k] who declares that the cases in which he tried the Solanum were much aggravated by it, and therefore he contends that its use is prejudicial and dangerous.

Which of these contradictory accounts may be most worthy of credit it is not for us to determine; but if we judge from the disuse of the Solanum, the opinion of Mr. Bromfield seems to have been tacitly confirmed. However, in the year 1764, Mr. Gataker again renewed his assertion of the efficacy of Nightshade,[l] which he does not attribute to any specific power, but to the evacuation it produces.

[h] *De plant.* 213.

[i] *Observations on the internal use of Solanum.*

[k] See his *Account of the English Nightshades.*

[l] *Essays on Medical Subjects.* See Introduction, and p. 38.

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SOLANUM DULCAMARA. WOODY NIGHTSHADE.

SYNONYMA. Dulcamara. *Pharm Edinb.* Solanum scandens seu Dulcamara. *Bauh. Pin.* 176. Glycypicros, sive Amara-dulcis. *J. Bauh.* ii. 109. Amara Dulcis. *Gerard. emac.* 350. Solanum lignosum sive Dulcamara. *Park. Theat.* 350. *Raii. Synopsis,* 265. *Raii Hist.* 672. Solanum caule flexuoso frutescente, foliis supremis tripartitis & cordato lanceolatis. *Hall. Stirp. Helv.* n. 575. *Hudson Flor. Ang. p.* 78. *Withering. Bot. Arrang.* 255. *Flor. Dan. tab.* 607. *Curtis Flor. Lond.* Στρυχνος *Theophrast.*

Varietates,

α Solanum scandens seu Dulcamara. l. c.

β Solanum dulcamarum africanum foliis crassis hirsutis. *Hort. Elt.* Vide *Hort. Kew.*

Sp. Ch. S. caule inermi frutescente flexuoso, foliis superioribus hastatis, racemis cymosis.

THE stalk is slender, climbing, alternately branched, somewhat angular, brittle, hollow, and frequently rises above six feet in height: it is covered with bark of an ash-colour, and that of the young branches is of a purple hue: the leaves are long, oval, pointed, veined, and many of those near the top are halbert-shaped, but the lower leaves are entire, and of a deep green colour: the flowers hang in loose clusters or cymæ; the corolla is monopetalous, wheel-shaped, divided into five pointed segments, which are bent backwards, of a purple colour, and the base of each marked with two round green spots: the tube is short, and the faux or mouth is of a shining black colour: the calyx is small, and divides into five blunt persistent segments, of a purple colour: the five filaments are short, black, and inserted in the tube of the corolla; the antheræ are yellow, erect, and unite at their points; the style is

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somewhat longer than the stamina, and terminated by a simple obtuse stigma; the germen is oval, and becomes a roundish bilocular berry, which finally acquires a red colour, and contains many flat yellowish seeds. It grows plentifully in hedges well supplied with water, and the flowers appear about the latter end of June.

The roots and stalks of this Nightshade, upon being chewed, first cause a sensation of bitterness, which is soon followed by a considerable degree of sweetness; and hence the plant obtained the name of Bittersweet. The berries have not yet been applied to medical use; they seem to act powerfully upon the primæ viæ, exciting violent vomiting and purging: thirty of them were given to a dog, which soon became mad, and died in the space of three hours, and upon opening his stomach, the berries were discovered to have undergone no change by the powers of digestion;[a] there can therefore be little doubt of the deleterious effects of these berries; and as they are very common in the hedges, and may be easily mistaken by children for red currents, which they somewhat resemble, this circumstance is the more worthy of notice. The stipites, or younger branches, are directed for use, in the Edinburgh Pharm. and they may be employed either fresh or dried, making a proportionate allowance in the dose of the latter for some diminution of its powers by drying. In autumn, when the leaves are fallen, the sensible qualities of the plant are said to be the strongest,[b] and on this account it should be gathered in autumn rather than in spring.

Dulcamara does not manifest those narcotic qualities, which are common to many of the nightshades; it is however very generally admitted to be a medicine of considerable efficacy. Murray says that it promotes all the secretions:[c] Haller observes that it partakes of the milder powers of the Nightshade, joined to a resolvent and saponaceous quality;[d] and the opinion of Bergius seems to coincide

[a] Floyer Pharmac. p. 86.

[b] Colliguntur stipites vel primo vere vel autumni fine, foliis destituti, tumque et odor saporque insignior. Murray Ap. Med. vol. i. p. 424.

[c] Per omnia colatoria corporis efficaciam exercent. l. c.

[d] Vis partim solanacea, mitis, partim resolvens, quasi saponacea. l. c.

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with that of Murray: "*Virtus:* pellens urinam, sudorem, menses, lochia, sputa; mundificans."[e] The diseases in which we find it recommended by different authors are extremely various;[f] but Bergius confines its use to "rheumatismus, retentio, mensium & lochiorum." Dulcamara appears also, by the experiments of Razoux and others, to have been used with advantage in some obstinate cutaneous affections.[g] Dr. Cullen says, "We have employed only the stipites or "slender twigs of this shrub; but as we have collected them they "come out very unequal, some parcels of them being very mild "and inert, and others of them considerably acrid. In the latter "state we have employed a decoction of them in the cure of rheu-"matism, sometimes with advantage, but at other times without "any effect. Though the Dulcamara is here inserted in the cata-"logue of diuretics, it has never appeared to us as powerful in this "way; for in all the trials made here, it has hardly ever been ob-"served to be in any measure diuretic.[h]" This plant is generally given in decoction or infusion, and to prevent its exciting nausea, it is ordered to be diluted with milk, and to begin with small doses, as large doses have been found to produce very dangerous symptoms.[i] Razoux directs the following: ℞ Stipitum Dulcam. rec. drac. ss. in aquæ font. unc. 16 coquatur ad unc. 8. This was taken in the dose of three or four drams, diluted with an equal quantity of milk every four hours.[k]

[e] Mat. Med. 131.

[f] See the instances adduced by Haller and Murray. l. c. Of the chief of these we may mention Phthisis, Lues venerea, Peripneumonia notha, Scorbutus, Icterus, Asthma, &c. on the authority of Boerhaave, Sauvages, Sager, and others.

[g] Journ. de Medecine. t. 22. p. 236.

[h] Mat. Med. ii. 354.

[i] Vide Linnæus Diss. de Dulcamara, p. 9. Haen. rat. med. Tom. iv. p. 247. "Largior Dulcamaræ usus initio et antequam ventriculus illi assueverit, nauseam et vomitum excitat, quin convulsiones et deliria, et notante cl. Govan, protractus paralysin linguæ." Vide Murray l. c.

[k] Linnæus directs two drams or half an ounce of the dried stipites, to be infused half an hour in boiling water, and then to be boiled ten minutes; and of this decoction he gave two tea-cups full morning and evening. l. c.

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ORD. XIII. CAMPANACEÆ.

(From Campana a bell)—Plants with bell-shaped flowers.

CONVOLVULUS SCAMMONIA. SCAMMONY BIND-WEED.

SYNONYMA. Convolvulus, foliis sagittatis, postice truncatis. pedunculis bifloris. *Roy Lugdb.* 427. Convolvulus Syriacus. *Morris Hist.* 2. p. 12. Scammonium Syriacum. *Gerard.* 866. *Lobel Icon,* 620. Gummi-Resina. Scammonium. *Pharm. Lond. & Edinb.* Σκαμμωνια *Diosc.* Διαχρυσον *Trallian et quorund. Græcor.*

Class Pentandria. *Ord.* Monogynia. L. *Gen. Plant.* 215.

Ess. Gen. Ch. Cor. Campanulata, plicata. *Stigmata* 2. *Caps.* 2-locularis: loculis dispermis.

Sp. Ch. C. fol. sagittatis postice truncatis, pedunc. teretibus subtrifloris.

THIS plant grows plentifully about Maraash, Antioch, Edlib, and towards Tripoly in Syria: it was first cultivated in England by Mr. Gerard, in 1597. The root is from three to four feet long, and from nine to twelve inches in circumference, covered with bark of a light grey colour; it is perennial, tapering, branched towards the bottom, and contains a milky juice: the stalks are numerous, slender, twining, and spread themselves upon the

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ground, or neighbouring trees, to the extent of fifteen or twenty feet: the leaves are arrow-shaped, smooth, of a bright green colour, and stand upon long footstalks: the flowers are funnel-shaped, yellowish, plicated, and, according to Dr. Russel, placed in pairs upon the pedicles: the calyx is double, consisting of four emarginated leaflets in each row: the capsule is three and sometimes four locular,* containing seeds of a pyramidical shape. No part of the dried plant possesses any medicinal quality but the root, which Dr. Russel administered in decoction, and found it to be a pleasant and mild cathartic.

It is from the milky juice of the root that we obtain the officinal Scammony, which is procured in the following manner by the pheasants, who collect it in the beginning of June: "[a] Having "cleared away the earth from about the root, they cut off the top, "in an oblique direction, about two inches below where the stalks "spring from it. Under the most depending part of the slope they "fix a shell, or some other convenient receptacle, into which the "milky juice gradually flows. It is left there about twelve hours, "which time is sufficient for draining off the whole juice: this, "however, is in small quantity, each root affording but a very "few drams. This juice from the several roots is put together, "often into the leg of an old boot, for want of some more proper "vessel, where in a little time it grows hard, and is the genuine "Scammony." This concrete is a gummy-resin, generally of a light, shining, grey colour, and friable texture. It is brought from Aleppo and Smyrna;[b] that which comes from the latter place is less valued than the former, and is supposed to be more ponderous and

* The *Caps 2-locularis* of Linnæus, ought to be corrected.

[a] Dr. Russel's Description of this plant in the Medical Observations and Inquiries, v. 1. p. 18.

[b] The Jews make it their business to go to the places where the Scammony is collected, and there buying it while yet soft, have an opportunity of mixing it with such things as best answers their purpose; as wheat-flower, ashes, fine sand, with all of which Dr. Russel found it adulterated. The purest Scammony is therefore the most active and most soluble.

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of a deeper colour; but the colour affords no test of the goodness of this drug, which seems to depend entirely upon the purity of the concrete. The smell of Scammony is rather unpleasant, and the taste bitterish and slightly acrid. The different proportions of gum and resin of which it consists, have been variously stated, [c] but as proof spirit is the best menstruum for it, these substances are supposed to be nearly in equal parts.

Scammony appears to have been well known to the Greek and Arabian physicians,[d] and was not only employed internally as a purgative, but also as an external remedy for tumours, scabies, tinea, fixed pains, &c.—Although this Drug was seldom given alone, yet we find it was very generally used,[e] and an ingredient in many [f] compounds which were formerly held in very great repute.—Hoffman, however, entertained an opinion, that Scammony was a dangerous medicine; "Ego nunquam in praxi mea in usu "habui, nec in posterum habebo; me semper ab istiusmodi venenis "colliquativis abstinens. *Hoff. in Schrod. p. 543.*" But since Boerhaave's time it has been considered as a safe though stimulating cathartic, and frequently prescribed uncombined with any other substance, yet neither producing tormina nor hypercatharsis. Like other resinous purgatives it is uncertain in its operation, which may be occasioned by the intestines being more or less defended from the action of these stimulants, by the quantity of natural mucus with which they are covered.

[c] Boulduc Mem. de l'Ac. 1702. Geoffroy Mat. Med.

[d] Hippocrates, Dioscorides, Aëtius, Mesue, &c.

[e] As Diagrydium. Scam defœcatum per succum citroniorum. Extractum spt vin. Extract. diagridii aromaticum. Extract. scam. glycyrrhizatum. Elixir Scammon. Scam. vitriolatum, Scam. sulphuratum, Scam. rosatum, Infusum scammonii, Diacydonium lucidum scammoniatum. Gelatina cydoniorum laxativa, &c.

[f] Among these were the Pulvis de Tribus, or Pulvis trium Diabolorum, Pulvis Basilicus, Pulvis Comitis de Warwick, which was afterwasds called Pulvis Cornachini, because Marcus Cornachini, professor of medicine at Pisa, recommended it as a panacea, in a book, the title of which is, "*Methodus qua omnes humani corporis* "*affectiones ab humoribus copiâ aut qualitate peccantibus genitæ, tuto, cito, et* "*iucunde curantur.*"

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The dose of Scammony is generally from three to twelve grains. It is commonly triturated with sugar, almonds, &c. or with a decoction of liquorice, as recommended by the college of Wirtemberg. In the London Pharmacopœia it is ordered in the following compounds:—Pulvis e scammonio compositus. Pulvis e scammonio compositus cum aloë. Pulvis e scammonio cum calomelane. Pulvis e senna compositus. Extractum colocynthidis compositum. And in the Pilulæ ex colocynthide cum aloe of the Edinburgh Pharm.

CONVOLVULUS JALAPA. JALAP BIND-WEED.

SYNONYMA. Jalapium. *Pharm. Lond.* Jalappa. *Pharm. Edin.* Convolvulus Jalapa, fol. difformibus cordatis angulatis oblongis lanceolatis, caule volubili, pedunculis unifloris. *Lin. Syst. Veg. & Mant.* 43. Convolvulus foliis variis, pedunculis unifloris, radice tuberosâ cathartica. *Mill. Dict.* Convolvulus Americanus Jalapium dictus. *Raii. Hist.* vol. 1. 724. Mechoacanna nigricans, sive Jalapium. *Park.* 180. Bryonia Mechoacanna nigricans. *Bauh. Pin.* 298.

Sp. Ch. C. caule volubili, foliis ovatis subcordatis obtusis obsolete repandis subtus villosis, pedunculis unifloris. *Hort. Kew.* vol. 1. 211.

THE root is perennial, large, ponderous, abounding with a milky juice, of an irregular oval form, and blackish colour; the stalks are numerous, shrubby, slender, twisted, striated, rising above ten feet high, and twining for support round the neighbouring plants; the leaves are various, generally more or less heart-shaped, but often angular, or oblong and pointed; they are smooth, of a bright green colour, and stand alternately upon long footstalks; the flowers are produced from short branches, sending off two peduncles each of

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which supports a single flower; this is large, bell-shaped, entire, plicated, externally of a reddish colour, but of a dark purple within;* the calyx consists of five oval leaves, these are concave, somewhat indented at their points, and of a pale green colour; the filaments are five, slender, short, and the antheræ large, and yellow; the style is shorter than the stamina; the stigma is round, and the germen oval. It is a native of South America, and flowers in August and September.[a] The plant we have figured was introduced into the Royal garden at Kew in 1778, by Mons. Thouin, and under the direction of Mr. Aiton it acquired great vigour and luxuriance, extending its stalks fifteen feet in length; and, by means of slips obtained from it, two healthy young plants have since been produced: this circumstance is the more fortunate, as the parent plant lately died. Botanists have differed much respecting the officinal Jalap plant; Linnæus following Clusius, Plumier, Tournefort, and others, first referred it to the Mirabilis, but in the second edition of his Materia Medica he adopts the opinions of Ray and Miller, in considering it a Convolvulus; and indeed after the account of this plant given by Dr. Houston,[b] we are surprized that any doubt should still remain upon this subject.[c]

It is said that the root of Jalap was first brought to Europe about

* The colour will no doubt vary. This plant, at Kew, produced yellowish flowers; but the plants obtained by Houston from the Spanish West Indies answers to the description we have given.

[a] Hort. Kew. [b] See Linnæus's Observ. in Mat. Med. 1772. p. 7.

[c] The London College have not referred to the Linnæan name of this plant.—Bergius found that neither the dried root of the Mirabilis Jalapa, nor of the M. longiflora, given in the dose of half a dram, produced any cathartic effects, but he says that of the M. dichotoma satis bene purgat; and as its root also bears some resemblance to the true exotic jalap, he hence infers that it is the same. However, with great deference to the learned professor, we think these reasons insufficient to warrant his conclusion, more especially as they are repugnant to establish facts. We may also observe, that all the three species of the Mirabilis are in some degree purgative; but even when fostered in the warm climate of Jamaica, so congenial to their native soil, their roots, both in appearance and medicinal power, essentially differ from those of jalap.

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the year 1610, and took its name from Xalapa, a province or town in New Spain. In the shops we find this root both cut into slices, and whole, of an oval shape, solid, ponderous, blackish on the outside, but grey within, and marked with several dark veins, by the number of which, and by its hardness, heaviness, and dark colour, the goodness of the root is to be estimated. It has scarcely any smell, and very little taste, but to the tongue and to the throat manifests a slight degree of pungency. The medicinal activity of Jalap resides principally, if not wholly, in the resin, which though given in small doses, occasions violent tormina. The gummy part bears an inconsiderable proportion to the resinous, and is found to have little or no cathartic power, but as a diuretic it is extremely active.—That Jalap is an efficacious and safe purgative daily experience must evince, but according as the root contains more or less resin, its effects must of course vary. Hoffman thought it particularly improper and unsafe to administer this medicine to children; but Dr. Cullen observes, that if Jalap "be well triturated before exhibition with a hard powder, and the crystals of tartar are the fittest for the purpose, it will operate in lesser doses than when taken by itself, and at the same time very moderately and without griping. Except when given in very large doses, I have not found it to be heating to the system; and if it be triturated with a hard sugar, it becomes, in moderate doses, a safe medicine for children, which in this form they will readily receive, as the jalap itself has very little taste."†——Jalap, in large doses, or when joined with calomel, is recommended as an anthelmintic and a hydragogue, and from its general efficacy in dropsies was called Panacea Hydropicorum.[d] For the different constitutions and conditions of body in which it is more especially indicated, or its use forbidden, we may cite the opinion of Geoffroy: "Observandum tamen Jalapam non convenire in febribus acutis, neque calidis & siccis constitutionibus. In his enim, sicut cætera purgantia acria & irritantia, calorem intensum & sæpe inflammatorium in visceribus accendit, parcioremque imo sæpe

† Cullen's Mat. Med. vol. 2. p. 540. [d] Marcgrave M. M.

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nullam evacuationem promovet. Sed iis convenit, qui frigidæ sunt temperiei & sero scatentes, speciatim in hydrope, anasarca, & cachexia." M. M. In the Pharmacopœias, we have Jalap in the form of tincture and of extract; and the Edinburgh College direct it also in powder, with twice its weight of the crystals of tartar. The dose of the simple powder is commonly from one scruple to two; of the compound powder it may be double this quantity, which is nearly equal to 10 or 15 grains of the extract, or about two drams of the tincture.

LOBELIA SIPHILITICA. BLUE LOBELIA; Or, CARDINAL-FLOWER.

SYNONYMA. Lobelia. *Pharm. Edinb.* Rapunculus Americanus, flore dilute cæruleo. *D. Dodart Memoires, &c. p.* 297. Rapunculus galeatus virginianus, flore violaceo majore. *Morrison Hist. t. ii. p.* 466. Lobelia siphilitica caule erecto lævi, foliis lato lanceolatis serratis *incisis* utrinque acuminatis, floribus cæruleis. *Walter Flora Carolin. p.* 218. Conf. Kalmii descriptio largior in *K. Vet. Acad. Handl. p.* 284. *and Bartram's Appendix, containing descriptions, virtues, and uses of sundry plants, &c.*

Class Syngenesia. *Ord.* Monogamia. *Lin. Gen. Plant.* 1006.

Ess. Gen. Ch. Cal. 5-fidus. *Corolla* 1-petala, irregularis. *Capsula* infera, 2—s. 3-locularis.

Sp. Ch. Caule erecto, foliis ovato-lanceolatis subserratis, calycum sinubus reflexis.

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THE root is perennial, and furnished with many white fibres: the stem is upright, strong, simple, smooth, and rises upwards of two feet in height: the leaves, placed towards the top of the stem, are oval and pointed; those at the bottom are elliptical, and obtusely lance-shaped; they are both minutely serrated, veined, smooth, and without footstalks: the flowers are numerous, large, blue, and grow in a long spike, upon short peduncles: the corolla consists of a long tube, which is nearly cylindrical, and divided at the limb into five pointed oval segments, of a rich blue colour: the calyx is composed of five halberd-shaped leaves, which are fringed at the margin, and reflected at each side: the filaments are five, tapering, equal in length to the tube of the corolla, and closely connected at the top by the antheræ: the germen is short and conical: the style is of the length of the stamina, and terminated by a blunt hairy stigma: the capsule is oval, and divided into two cells, which contain many small seeds. It is a native of Virginia, and flowers from August till October.

Ray is the first English botanist to whom Mr. Aiton ascribes the cultivation of this species of the Lobelia, and, as a handsome plant, it is now in the possession of many of our gardeners. Every part of the plant abounds with a milky juice, and has a rank smell. The root, which is the part directed for medicinal use, in taste resembles tobacco, and is apt to excite vomiting. It derived the name siphilitica from its efficacy in the cure of syphilis, as experienced by the North American Indians, who considered it a specific in that disease, and with whom it was long an important secret. This secret was purchased by Sir William Johnson, and since published by different authors.[a]

The method of employing this medicine is stated as follows: A decoction is made of a handful of the roots in three measures of water. Of this, half a measure is taken in the morning fasting, and repeated in the evening; and the dose is gradually increased till its purgative effects become too violent, when the decoction is to

[a] Klam. l. c. Bartram. l. c.

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be intermitted for a day or two, and then renewed till a perfect cure is effected. During the use of this medicine, a proper regimen is to be enjoined, and the ulcers are also to be frequently washed with the decoction, or if deep and foul, to be sprinkled with the powder of the inner bark of the New Jersey Tea-tree (Ceanothus Americanus.) Although the plant thus used is said to cure the disease in a very short time, yet we do not find that the antisyphilitic powers of the Lobelia have been confirmed by any instances of European practice.

VIOLA ODORATA. SWEET VIOLET.

SYNONYMA. Viola. *Pharm. Lond. & Edinb.* Viola martia purpurea, flore simplice odoro. *Bauh. Pin. p.* 199. *J. Bauh. Hist. ii. p.* 542. *Raii Hist. p.* 1049. *Synop.* 364. Viola nigra sive purpurea. *Gerard. Emac. p.* 550. Viola simplex martia. *Park. Parad. p.* 282. Viola acaulis stolonifera, foliis cordatis. *Hall. Stirp. Helv. n.* 558. Viola odorata acaulis, foliis cordatis, stolonibus reptantibus, bractæis supra medium pedunculi. *Curtis. Flor. Lond.*

Varietates sunt,

α Viola martia purpurea, flore simplice odoro. *C. Bauh. l. c. p.* 199. *Purple Flowered Sweet Violet.*

β Viola martia alba. *C. Bauh. l. c. p.* 199. *White Flowered Sweet Violet.*

γ Viola martia multiplici flore. *C. Bauh. l. c. p.* 199. *Double Flowered Sweet Violet.*[a]

Class Syngenesia. *Ord.* Monogamia. *Lin. Gen. Plant.* 1007.

[a] Vide Aiton's Hort. Kew.

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Ess. Gen. Ch. *Cal.* 5-phyllus. *Cor.* 5-petala, irregularis, postice cornuta. *Caps.* supera, 3-valvis, 1-locularis.

Sp. Ch. V. acaulis, fol. cordatis: stolonibus reptantibus.

THE root is perennial, knobbed, whitish, and furnished with long fibres: the leaves are heart-shaped, veined, crenated, or slightly scolloped at the edges, on the upper side smooth, and of a shining green colour, underneath paler, somewhat hairy, and stand upon long smooth footstalks: the stipulæ are membranous, lance-shaped, minutely serrated, and chiefly produced from the root: the peduncles are usually about four inches long, and somewhat above the middle furnished with two pointed bracteæ, below which the peduncle is quadrangular, but above it is grooved on the back, bent downwards at the top, and supports a single flower: the calyx is composed of five leafits, persistent, oval, obtuse, protuberant at the base, and tinged with a dark purplish colour: the corolla consists of five irregular petals, of a bluish purple colour; the two lateral petals are bearded towards the base, and the claw of the undermost formed into a horn-shaped nectarium: the five filaments are very short: the antheræ are bilocular, slightly joined together, yellowish, and terminated by an oval membrane of an orange colour: from behind two of the antheræ there arises a flat greenish appendage, which is inserted in the nectarium: the germen is orbicular: the style twisted, and supplied with a hooked stigma: the capsule is roundish, compressed, separated by three valves, and contains several roundish light-coloured seeds. It is common near warm hedges, and on ditch banks, and flowers in March and April.

This species of violet may be distinguished from the Viola hirta, to which it bears a great resemblance, by the latter having its leaves and footstalks beset with small hairs; by not sending off creeping shoots which strike root; by its flowers being inodorous, and of a fainter blue colour; and by the bracteæ being placed somewhat below the middle of the scapus or peduncle.[b]

[b] This last circumstance was first noticed by Mr. Curtis, who introduced it into the specific character.

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The Viola odorata is evidently the Ἰον μέλαν of Theophrastus, and the Ἰον ἐαρινὸν of Dioscorides[a]; it was also well known to the Arabian physicians, as Mesue commends its use highly in various inflammatory diseases. Viola is likewise frequently mentioned by the Latin poets, who allude to its effects as a vulnerary.[b] The recent flowers only are now received in the catalogues of the Materia Medica; they have an agreeable sweet smell, and a mucilaginous bitterish taste; to water they readily give out both their virtue and their fine flavour, but scarcely impart any tincture to rectified spirit, though they impregnate the spirit with their flavour. These flowers taken in the quantity of a dram or two are said to be gently purgative or laxative, and according to Bergius, and some others, they possess an anodyne and pectoral quality. The officinal preparation of these flowers is a syrup,[f] which to young children answers the purpose of a purgative. This syrup is also found useful in many chemical inquiries to detect an acid or an alkali, the former changing the blue colour to a red, the latter to a green. The seeds of Violets are reported to be strongly diuretic, and useful in gravelly complaints.[g] The root powdered, in the dose of a dram, proves both emetic and cathartic.[h]

[a] Vide *Lewis's Mat. Med. p.* 664. [b] Vide Ovid *Metamorph. lib. x. v.* 190.

[f] This syrup is usually prepared from the petals of the cultivated Violet; and Dr. Withering tells us, that at Stratford upon Avon large quantities of the Violet are cultivated for this purpose. l. c.

[g] See the authorities cited by Murray, *App. Med. v. i. p.* 519.

[h] Tournefort *Hist. des Plant. de Paris, t. i. p.* 291. Henninger *Diss. de Viola purpur.*

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VIOLA TRICOLOR. PANSIE, Or THREE-COLOURED VIOLET.

SYNONYMA. Viola tricolor. *Pharm. Dale.* 239. *Bergius.* 708. *Murray. vt.* 33. Viola tricolor arvensis. *Bauh. Pin.* 200. V. tricolor sylvestris. *Park.* 755. *Ger. Emac.* 854. Jacea tricolor sive Trinitatis flos. *J. Bauh. iii.* 546. *Ray. Synop.* 336. *Hall. Hist. Stirp. Helv.* 569. *Huds. Flor. Ang.* 331. *Withering. Bot. Arr.* 957. *Curt. Flor. Lond. Flor. Dan.* 623. β Viola tricolor hortensis repens. *C. B.*

Syngenesia Monogamia. *Lin. Gen. Plant.* 1007.

Gen. Ch. *Cal.* 5-phyllus. *Cor.* 5-petala, irregularis, postice cornuta. *Caps.* supera, 3-valvis, 1-locularis.

Sp. Ch. V. caule triquetro diffuso, fol. oblongis incisis, stipulis pinnatifidis.

ROOT annual, simple, tapering, fibrous. Stalks from four to six inches high, branched, thick, angular, succulent. Leaves various shaped, ovate, or elliptical, crenated, narrowest at the upper part of the plant, often three together, on long footstalks. Stipulæ compound, cut into linear segments. Flowers solitary, tricoloured, placed on long angular footstalks furnished with a pair of membranous stipulæ near the flower. Calyx of five pointed leaves, of which the three uppermost are somewhat smaller than the others. Corolla pentapetalous, irregular. The two uppermost petals roundish, erect, dark purple; the two lateral petals elliptical, obtuse, yellowish, rough at the base, and marked with purple lines; lower petal broad, notched in the middle, yellow, tinged with dark radiated lines, forming behind a spur-like process or nectarium. Filaments five, very short. Antheræ scaly, lax, united, two-celled, terminated by an orange-coloured membrane. Germen conical. Style

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twisted at the base. Stigma round, obliquely perforated, permanent. Capsule one-celled, three-valved, containing numerous oval shining seeds.

It grows in corn fields, waste and cultivated grounds, flowering all the summer months.

This plant varies much by cultivation, and by the vivid colouring of its flowers often becomes extremely beautiful in gardens, where it is distinguished by various names.

To the taste this plant, in its recent state, is extremely glutinous, or mucilaginous, accompanied with the common herbaceous flavour and roughness. By distillation with water, according to Haase,[a] it affords a small quantity of odorous essential oil, of a somewhat acrid taste. The dried herb yields about half its weight of watery extract, the fresh plant about one-eighth.

Though many of the old writers on the Materia Medica represent this plant as a powerful medicine in epilepsy, asthma, ulcers, scabies, and cutaneous complaints, yet the viola tricolor owes its present character as a medicine to the modern authorities of Starck,[b] Metzger,[c] Haase,[d] and others,[e] especially as a remedy for the crusta lactea. For this purpose, a handful of the fresh herb, or half a dram of it dried, and boiled two hours in milk, is to be strained and taken night and morning. Bread, with this decoction, is also to be formed into a poultice, and applied to the part. By this treatment it has been observed, that the eruption during the first eight days increases, and that the urine, when the medicine succeeds, has an odour similar to that of cats; but on continuing the use of the

[a] *De viola tricolore.* Erlang. 1782.

[b] *De crusta lactea infantum ejusdemque remedio dissertatio, quam Acad. scient. Lugd. Gall. præmio coronavit.* 1776. Franc. ad Moen. 1779. See also *London Medical Journal. vol. ii.*

[c] *Verm. Med. Schriften. vol. 2.* [d] *L. c.*

[e] Armstrong's publication on this subject we have not seen. In Sweden many testimonies of the good effects of this plant have been published. See *Murray. l. c.*

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plant a sufficient time, this smell goes off, the scabs disappear, and the skin recovers its natural purity.

Instances of the successful exhibition of this medicine, as cited by these authors, are very numerous; indeed this remedy, under their management, seems rarely, if ever, to have failed. It appears, however, that Mursinna,[f] Ackermann,[g] and Henning,[h] were less fortunate in the employment of this plant; the last of whom declares, that in the different cutaneous disorders in which he used it, no benefit was derived.

Haase, who administered this species of violet in various forms, and large doses, extended its use to many chronic disorders; and from the great number of cases in which it proved successful, we are desirous of recommending it to a further trial in this country.

It is remarkable that Bergius speaks of this plant as a useful mucilaginous purgative, and takes no notice of its efficacy in the crusta lactea, or in any other disease.

[f] *Med. chirurg. Beobacht.* 2. *Samml. p.* 107. &c.

[g] See *Comment. de rebus, &c. vol.* 27. *p.* 170.

[h] See *Beob. über einige Arzneymittel. p.* 65.

The remaining medicinal plants, belonging to this order, are the species of the convolvulus, officinally called Mechoacanna, convolvulus major, Turpethum and Soldanella; Dentaria or Plumbago europæa: Viola canina, or dog's violet, the roots of which have lately been discovered to be both emetic and cathartic.

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ORD. XIV. CONTORTÆ.

(From con, and torqueo, to twist together.)

Plants which have a single petal, that is, twisted or bent to one side.

CINCHONA OFFICINALIS. OFFICINAL CINCHONA; Or PERUVIAN BARK TREE.

Cinchona, Peruvianus cortex. *Pharm. Lond. & Edinb.*

SYNONYMA. Quinquina. *De La Condamine,* in *Mem. de L'Acad. des Scien. de Paris.* 1738. *p.* 226. *cum icone tab.* 5. 6. recusa in *Rosén. Diss. de Cort. peruv. Lursen. Diss. de Cort. peruv. et Pultney. Diss. de Cinchona off.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 228.

Ess. Gen. Ch. Cor. infundibulif. apice lanata. *Caps.* infera, 2-locularis, dissepimento parallelo.—*Sem.* imbricata. *Jacq.*

Sp. Ch. C. foliis ellipticis subtus pubescentibus corollæ, limbo lanato.

THIS tree is very lofty, sending off large branches, covered with rough brown bark: the leaves vary from an ovate to an elliptical shape, the larger approaching more to the former, and the smaller to the latter figure; they are all entire, nerved, smooth on the upper side, on the under tomentose, and stand in pairs upon footstalks: the flowers are produced in panicles, and stand upon slender pedi-

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cles: the calyx is small, bell-shaped, and cut at the margin into five minute segments: the corolla is funnel-shaped, consisting of a long cylindrical tube, divided at the limb into five segments, which are ovate, or oblong, spreading, on the upper side red, on the under woolly, and fringed at the edges: the five filaments are bristly, placed in the middle of the tube, and furnished with oblong antheræ, twisted in a spiral manner: the germen is ovate: the style is filiform, somewhat longer than the stamina, and furnished with a round stigma: the capsule divides into two parts, the cells of which are separated by a parallel partition: the seeds are small and numerous.

This figure we have not scrupled to copy from that given by Mons. de la Condamine,[a] whose description of this tree, though published more than fifty years ago, being the result of a careful examination of the living tree in its native soil, is still the only one on which we can with confidence rely.

It is a native of Peru, growing most abundantly on a long chain of mountains extending to the north and south of Loxa, where its trunk frequently exceeds in bulk the body of a man. According to Mr. Arrot, the soil in which these trees thrive best, is generally a red clayey or rocky ground, and especially on the banks of small rivers descending from the high mountains.[b] This author also informs us, that the properest season for cutting off the bark is from September to November, and the manner of conducting this we have related in Mr. Arrot's own words.* On the trees being en-

[a] *L. c.* [b] *Phil. Trans. vol.* 40. *p.* 83.

* "The properest season for cutting the bark is from September to November, "the only time in the whole year of some intermission from the rain in the moun- "tains. Having discovered a spot where the trees most abound, they first build "huts for the workmen, and then a large hut wherein to put the bark in order to "preserve it from the wet; but they let it lie there as short a time as possible, "having beforehand cut a road from the place where the trees grow, through the "woods, sometimes three or four leagues, to the nearest plantation or farm-house "in the low country, whither, if the rain permits them, they carry the bark forth- with to ry. These preparations being made, they provide each Indian (they

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tirely stripped of their bark they soon perish; and as the number of these trees to which access could be had, was said to be not very considerable, it has been supposed that a sufficient quantity of bark to supply the demand, could not long be procured. Condamine, however, asserts that the young trees do not die by losing their bark, but send out fresh shoots from the base, and as those which are suffered to become old have time to disseminate and propagate, we trust the fear of exhausting this valuable medicine is wholly groundless.

We seem to have no satisfactory account at what time, or by what means, the medicinal efficacy of the Peruvian Bark which is now so well established, was first discovered. Some contend that its use in intermittent fevers was known to the Americans long before the Spaniards possessed Peru, but that they concealed this knowledge from the Europeans; and, on the contrary, it is asserted by others, that the Peruvians never supposed it to be fit for any medicinal use, but thought that the large quantities exported thence was for the purpose of dyeing, and they actually made some trials of its effects in this way.[c] Condamine says, that according to an ancient tradition, the Americans owe the discovery of this remedy to the

" being the cutters) with a large knife, and a bag that will hold about fifty pounds " of green bark: every two Indians take one tree, whence they cut or slice down " the bark, as far as they can reach from the ground; they then take sticks about " half a yard long each, which they tie to the tree with tough withs at proper " distances, like the steps of a ladder, always slicing off the bark as far as they " can reach before they fix a new step, and thus mount to the top, the Indian " below gathering what the other cuts: this they do by turns, and go from tree to " tree until the bag is full, which, when they have plenty of trees, is generally a " day's work for one Indian. As much care as possible must be taken that the " bark is not cut wet; should it so happen, it is to be carried directly down to " the low country to dry; for otherwise it loses its colour, turns black, and rots; " and if it lie any time in the hut without being spread, it runs the same risk: so " that while the Indians are cutting, the mules if the weather permits ought to be " carrying it down to the place appointed for drying it, which is done by spread- " ing it in the open air, and frequently turning it." l. c.

[c] Ulloa *Voyage de l'Amerique meridionale, T. i.* 271.

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lions, which some naturalists pretend are subject to a kind of intermitting fever, of which they were observed to be cured by instinctively eating the bark of the Cinchona. But Geoffroy states, that the use of the bark was first learned from the following circumstance:—Some cinchona trees being thrown by the winds into a pool of water, lay there till the water became so bitter that every body refused to drink it. However, one of the neighbouring inhabitants being seized with a violent paroxysm of fever, and finding no other water to quench his thirst, was forced to drink this, by which he was perfectly cured. He afterwards related the circumstance to others, and prevailed upon some of his friends who were ill of fevers to make use of the same remedy, with whom it proved equally successful.[d] The use of this excellent medicine, however, was very little known till about the year 1638, when a signal cure having been performed by it on the Spanish viceroy's lady, the Countess del Cinchon, at Lima, it came into general use, and hence was distinguished by the appellation pulvis comitissæ, or the Countess's powder; also called, cortex china china, or chinchina; kina kina, or kinkina; and quina quina, or quinquina. On the recovery of the Countess she distributed a large quantity of the bark to the Jesuits, in whose hands it acquired still greater reputation, and by them it was first introduced into Europe,[e] and thence called cortex, or pulvis jesuiticus, pulvis patrum; and also Cardinal de Lugo's powder, because that charitable prelate bought a large quantity of it at a great expense for the use of the religious poor of Rome.

"This bark is brought to us in pieces of different sizes, some rolled up into short thick quills, and others flat: the outside is brownish, and generally covered in part with a whitish moss: the inside is of a yellowish reddish or rusty iron colour. The best sort breaks close and smooth, and proves friable between the teeth: the

[d] *Mat. Med. Traité, p.* 78.

[e] Louis the fourteenth, when Dauphin, was said to be one of the first in Europe who experienced its efficacy.

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inferior kinds appear when broken of a woody texture, and in chewing separate into fibres. The former pulverizes more easily than the latter, and looks, when powdered, of a light brownish colour, resembling that of cinnamon, or somewhat paler. It has a slight smell, approaching as it were to mustiness, yet so much of the aromatic kind as not to be disagreeable. Its taste is considerably bitter, astringent, very durable in the mouth, and accompanied with some degree of aromatic warmth, but not sufficient to prevent its being ungrateful." *

Besides this bark, that of several other species of Cinchona have been recommended for medical use by different authors, especially the cortex peruvianus ruber, or red bark; also that of the cinchona caribæa, or the Jamaica bark; that of cinchona floribunda produced at St. Lucie; and that of two or three other species discovered at Santa Fé. The first of these " is in much larger and thicker pieces than the common, most of the pieces are concave, though not rolled together like the quilled bark. They break short, like the best common bark, and appear evidently composed of three layers. The outer is thin, rugged, frequently covered with a mossy substance, and of a reddish brown colour. The middle is thicker, more compact, and of a darker colour: it is very brittle and resinous. The innermost layer is more woody and fibrous, and of a brighter red. In powdering this bark, the middle layer which seems to contain the greatest proportion of resinous matter, does not break so readily as the rest; a circumstance to be attended to, lest the most active part should be left out of the fine powder. This red bark to the taste discovers all the peculiar flavour of the Peruvian Bark, but much stronger than the common officinal sort. An infusion in cold water is intensely bitter, more so than the strongest decoction of common bark. Its astringency is in an equal degree greater than that of the infusion of common bark, as is shewn by the addition of martial vitriol. The spirituous tincture of the red bark is also proportionally stronger than that of the pale. The quantity of matter

* *Lewis, M. M. p.* 485.

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extracted by rectified spirit from the powder of the former, was to that from the latter as 3 to 2 in one experiment, and as 229 to 130 in another; and yet on infusing the two residuums of the first experiment in boiling water, that of the red bark gave a liquor considerably bitter, and which struck a black with martial vitriol; while that yielded by the other, was nearly tasteless and void of astringency."*

Respecting the medicinal properties we have several respectable authorities, shewing, that as the red bark possesses the same virtues with the common, in a much higher degree,‡ so it has been found of more efficacy in the cure of intermittents: and hence it is thought to be that which, according to Arrot, the Spaniards called Cascarilla colorada, and was probably the kind originally brought to Europe, and which proved so successful in the hands of Sydenham, Morton, and Lister; for it appears from the testimony of the oldest practitioners, that the bark first employed here was of a much deeper colour than the common bark.[t] The red bark was first imagined by Dr. Saunders[s] to be that of the trunk of full grown trees, the branches or young trees of which yield the pale or common bark; but this opinion the Doctor seems afterwards to have abandoned, for in the third edition of his pamphlet on this subject he says, "that he has lately seen some exceedingly good red bark imported by a Spanish merchant, a considerable part of which was as small as the quilled bark in common use, &c. It was extremely resinous, and gave evident proofs of its being the quill of the larger red bark which was in the same chest." If the pale and red bark were really the produce of the same species of Cinchona, the latter differing from the former only by acquiring greater maturity, we should find the deepness of the colour of the pale bark to correspond proportionably with its thickness or the size of the quill, which is certainly not the case. The Cinchona Caribæa is described and

* Lewis, l. c. ‡ *Irving's and Skeete's Experiments.*

[t] Baker. *Med. Trans. Vol. iii. p.* 161. [s] *Observations on the superior efficacy of the red Peruvian Bark in the cure of fevers.*

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figured by Jacquin[h] and Dr. Wright;[i] it grows in Jamaica, where it is called the Sea Side Beech. According to Dr. Wright, the bark of this tree is not less efficacious than that of the Cinchona of Peru, for which it will prove an useful substitute; but by the experiments of Dr. Skeete it appears to have less astringent power.[k] The Cinchona floribunda, or bark tree of St. Lucie, a figure of which we find in Phil. Trans. also in Rozier's Observations sur la Physique, affords a bark which is likewise said to have been used with advantage; but notwithstanding all that has been written to establish its medicinal character,[l] it seems to us greatly inferior to that of the other species of this genus. In its recent state it is considerably emetic and cathartic; properties, which in some degree it retains on being dried; so that the stomach does not bear this bark in large doses, and in small ones its effects are not such as to give it any peculiar recommendation. Several species of Cinchona have lately been discovered at Santa Fé, yielding barks both of the pale and red kind; and which, from their sensible qualities, are likely upon trial to become equally useful with those produced in the kingdom of Peru.[m]

At present, the use of the bark is chiefly confined to the pale and red kind; and the nearer the former resembles the latter, the more it is esteemed.

"The Peruvian Bark yields its virtues both to cold and boiling water; but the decoction is thicker, gives out its taste more readily, and forms an ink with a chalybeate more suddenly than the fresh cold infusion. This infusion, however, contains at least as much extractive matter, but more in a state of solution; and its colour on standing with the chalybeate becomes darker, while that of the decoction becomes more faint. When they are of a certain age, the

[h] *Amer. pict. tab.* 23. [i] *Phil. Trans. Vol.* 67. [k] *Esper. p.* 339.

[l] See *Kentish. Exp. and Observ. on the Peruvian Bark.* Davidson in *Phil. Trans. Vol.* 74. *and Trans. of the American Phil. Soc. Vol.* 2. Mallet in *Mem. sur le Quinquina de la Martinique, &c.*

[m] See *Memoria o Dissertazione sopra la nuova China del regno de St. Fé, &c.*

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addition of a chalybeate renders them green; and when this is the case, they are found to be in a state of fermentation, and effete. Mild or caustic alkalies, or lime, precipitate the extractive matter, which in the case of the caustic alkali is re-dissolved by a farther addition of the alkali. Lime-water precipitates less from a fresh infusion than from a fresh decoction; and in the precipitate of this last, some mild earth is perceptible. The infusion is by age reduced to the same state with the fresh decoction, and then they deposit nearly an equal quantity of mild earth and extractive matter; so that lime-water as well as chalybeate, may be used as a test of the relative strength and perishable nature of the different preparations, and of different barks. Accordingly, cold infusions are found by experiments to be less perishable than decoctions; infusions and decoctions of the red bark, than those of the pale: those of the red bark, however, are found by length of time to separate more mild earth with the lime-water, and more extracted matter. Lime-water as precipitating the extracted matter appears an equally improper and disagreeable menstruum. Water has been found to suspend the resin by means of much less gum than has been supposed. Rectified spirit of wine extracts a bitterness, but no astringency, from a residuum of twenty affusions of cold water; and water extracts astringency, but no bitterness, from the residuum of as many affusions of rectified spirit. The residua of both are insipid."*

From many ingenious experiments made on the Peruvian Bark by Dr. Irving, published in a Dissertation which gained the prize-medal given by the Harveian Society of Edinburgh in 1783, the power of different menstrua upon Peruvian Bark, is ascertained with greater accuracy than had before been done: and it appears, that with respect to comparative power, the following fluids act in the order in which they are placed: Dulcified spirit of vitriol: Caustic ley: French brandy: Rhenish wine: Soft water: Vinegar and water: Dulcified spirit of nitre: Mild volatile alkali: Rectified

* *Ed. New Dispens. p.* 251.

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spirit of wine: Mild vegetable alkali: Lime-water. The antiseptic powers of vinegar and bark united are double their sum taken separately. The astringent power of the bark is increased by acid of vitriol; the bitter taste is destroyed by it.

Though the bark on its first introduction, and even some time afterwards, was reprobated by some eminent physicians as a dangerous remedy; yet these prejudices are entirely done away, and its character is now universally established: so that the disputes which at present subsist are confined to its mode of operation, or the manner in which it is most efficaciously administered. To detail these, however, or even to give a circumstantial relation of the various states of disease in which the bark might be advantageously employed, would far exceed our limits: we are therefore confined to state briefly those diseases to which this medicine is more especially adapted.

The bark first acquired its reputation for the cure of intermittent fevers, and in these, when properly exhibited, it rarely fails of success. For this purpose, some practitioners prefer giving it just before the fit, some during the fit, and others immediately after. Dr. Cullen, who is of the first opinion, says, "I am satisfied that giving a large dose of the bark immediately before the time of accession, is the most proper practice: but as that dose must not be under two drams of pale bark, so there are some stomachs which will not bear even that quantity, or a larger that might be necessary. It is commonly, therefore, convenient to give small doses, but to give them every hour for some hours near to the times of accession."[n] Some again order it in the quantity of an ounce between the fits; the dose being more frequent and larger, according to the frequency of the fits; and this mode of procedure, although it may perhaps lead to the employment of more bark than is necessary, is considered by Dr. Duncan[o] as upon the whole preferable, from being best suited to most stomachs. When the bark pukes, or purges, or oppresses the stomach, it is to be coun-

[n] *Mat. Med. p. 97.* [o] See *New Edinburgh Dispensatory.*

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teracted by remedies particularly appropriated to them. Thus, vomiting, is often restrained by exhibiting it in wine; looseness, by combining it with opium; and oppression at the stomach, by the addition of an aromatic. But unless for obviating particular occurrences, it is more successful when exhibited in its simple state than with any addition.

It may be given from the very commencement of the disease without any previous evacuations, though it commonly answers better after emptying the alimentary canal, particularly the stomach; and it is to be continued not only till the paroxysms cease, but till the natural appetite, strength, and complection return.

In remittent fevers, especially during the times of remission, the bark may also be employed with great success; for as both these and intermittents arise from the same cause, prevail at the same seasons, and assume mutually the form of each other, they show a strict affinity, and found a presumption which is confirmed by experience, that they may be cured by the same remedy. In continued fevers, or typhus of the nervous and putrid kind, the bark is very generally used, as well suited to counteract the debility or putrescency which marks the progress of the disorder. There is, however, one state not unfrequently present in these epidemic fevers, in which the bark is found to be hurtful; i. e. symptoms of conjestion, or topical inflammation of the head, manifested by headach, redness of the eyes, and phrenitic delirium. And whenever delirium is accompanied with much subsultus tendinum, or frequent convulsive twitchings of the limbs, Dr. Cullen thinks opium in large doses is the only remedy to which we can trust.

Of late the bark has been much employed in acute rheumatism, particularly after the violence of the disease has been in some measure moderated by the antiphlogistic treatment, or when evident remissions take place. Many, however, have recourse to this medicine in the first stage of the disease, and we have witnessed its success in some of the London Hospitals, even while the inflammatory symptoms prevailed to a very considerable degree. This seems

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contrary to the experience of Dr. Cullen, who says, "As I consider this disease as especially consisting in a phlogistic diathesis, I hold the bark to be absolutely improper, and have found it manifestly hurtful, especially in its beginning, and in its truly inflammatory state."

In the confluent small-pox the bark has been recommended to promote the rising of the pustules; this opinion our own experience teaches us to reject; but after the maturition of the pustules is completed, or where symptoms of putrescency, or a dissolved state of the blood supervenes, the bark cannot be too liberally employed. The other diseases in which the bark is recommended, are gangrenous sore throats, and indeed every species of gangrene; scarletina, dysentery, all hemorrhages of the passive kind; likewise other increased discharges; some cases of dropsy, especially when unattended with any particular local affection, scrophula, ill conditioned ulcers, rickets, scurvy, states of convalescence, certain stages of phthisis pulmonalis, &c.

The officinal preparations of the bark are the powder, the extract, the tincture, and the decoction. This last, though frequently employed, is in many respects inferior even to a simple watery infusion; but the best form is that of powder, in which the constituent parts are in the most effectual proportion.

CINCHONA.—CORTEX PERUVIANUS RUBER. RED PERUVIAN BARK TREE.

Cortex Peruvianus ruber officinarum.

THOUGH the specific character of this species has not yet been botanically determined, yet upon the testimony of Combe and Groschke[a] a drawing of it was sent to Linnæus from Peru, which was found in the Linnean Herbarium purchased by Dr. Smith, to

[a] See *Blumenbach Med. Biblioth. V. 2. p.* 486.

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whom we are obliged for the annexed figure. In the original drawing two specimens of the branches are given, one in its floral and the other in its capsular state; to which is also added, a sketch of the bark. On these authorities, and on that of Murray, who, in his sixth vol. of the *App. Medicam.*[d] refers to this figure, we consider ourselves sufficiently warranted to present it to the publick, not doubting of its being peculiarly acceptable to our medical readers.

It has evidently the essential characters of the Cinchona, while it differs specifically from all the others which we have seen of this genus. From that of the C. officinalis, the disparity is so obvious, that on comparing the two figures, it does not require to be pointed out.

The medicinal qualities of the bark have been considered already with that of the preceding.

[d] See p. 45.

ASCLEPIAS VINCETOXICUM. OFFICINAL SWALLOW-WORT.

SYNONYMA. Vincetoxicum, Asclepias, Hirundinaria. *Pharm. Dale.* 179. *Alston. v. i.* 536. *Bergius.* 172. *Murray. i.* 543. *Lewis.* 661. *Ed. New Dispens.* 301. Asclepias albo flore. *Bauh. Pin.* 303. *Gerard. Emac.* 898. *Park. Theat.* 387. *Ray. Hist.* 1091. *Flor. Dan.* 849. β Asclepias foliis ovatis acutis, caule infirmo, umbellis simplicibus. *Mill. Dict. Hort. Kew.*

Pentandria Digynia. *Lin. Gen. Plant.* 306.

Gen. Ch. Contorta. *Nectara* 5, ovata, concava, corniculum exserentia.

Sp. Ch. A. foliis ovatis basi barbatis, caule erecto, umbellis proliferis.

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ROOT perennial, large, knobbed, from which issue a number of small, slender, yellowish fibres. Stalks above a foot in height, erect, round, simple, somewhat downy, jointed, at the base purplish, above green. Leaves on short footstalks, opposite, ovate, long, pointed, and bearded with short hairs at the base. Flowers white, arising in clusters at the axillæ of the leaves. Calyx downy, divided into five narrow pointed segments. Corolla monopetalous, divided into five ovate, obtuse, spreading segments. Nectaria five, fleshy, adhering to the filaments; from the bottom horn-shaped, and bent inwards. Filaments five, of a tubular appearance. Antheræ oblong, erect, within the scales of the nectary. Germina two, oblong, tapering. Styles two, short, tapering. Stigmata simple. Follicles two, large, oblong, pointed, ventricose, one-celled, one-valved. Seeds numerous, crowned with pappus.

This plant, which is not uncommon in the northern parts of Europe, has been cultivated in Britain since the time of Parkinson, in 1640. Its root, which is the part medicinally employed, has, "when fresh, a moderately strong not agreeable smell, approaching to that of wild valerian, which, in drying, is in great part dissipated; chewed, it impresses first a considerable sweetness, which is soon succeeded by an unpleasant subacrid bitterishness."[a]

Bergius states the virtues of this root to be pullens, diuretica, sudorifica, emmenagoga, alexipharmica.

By F. Hoffman it was found to possess an anodyne quality;[b] but we are told by others that it sometimes excites nausea and vomiting.[c] It has been chiefly used in dropsical disorders; and several cases are related in which it was given with great success;[d] but as other medicines were at the same time employed, the good effects of the Vincetoxicum may not be yet thought sufficiently established. The same observation will apply to Stahl's pulvis anti-

[a] *Lewis. l. c.* [b] *Med. Syst. T.* 4. *P.* 3. *p.* 305.
[c] *Durr. Eph. Nat. Cur. Dec.* 2. *A.* 7. *p.* 105. See also *Geoff.*
[d] Vide *Bauh. hist. ii. p.* 139. *Durr. l. c.*

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hydropicus, a composition in which the Vincetoxicum is an ingredient.*

This root has also been recommended in malignant fevers, and even in the plague,[e] especially by some German authors; hence it has been called *Contrayerva Germanorum.* Other disorders, in which it is said to be useful, are small-pox,[f] scrophula, and uterine obstructions.

The dose, in powder, is from a scruple to a dram, or an infusion of three or four drams.

Vinca minor, (Vinca peruinca, or Periwinkle) Nerium antidysentericum, (Profluvii cortex, or Tili-cherry bark) if we except the cinchona already noticed, are the only two remaining medicinal plants belonging to the order Contortæ. The former is a native of Britain, and has been used in the character of an astringent, especially in hemorrhagic disorders. The latter is a native of the East Indies.

Its bark, which possesses an aromatic bitter astringent, and, according to Dr. Brocklesby, an anodyne quality, has been employed in dysenteries, diarrhœas, and in intermittent fevers, occuring in warm climates.†

* Stahl made also other compositions of the Vincetoxicum, which were received in the *Pharm. Wurt. & Brand.*

[e] *Palmar. de feb. pest. c.* 18. *Antzer. Antid. pest. L.* 2.

[f] *Linn. Fl. Suec. p.* 77.

† See *Monro, sen. Med. Essays.* 3. *p.* 32. *Brocklesby. Observ. on camp. diseases. p.* 194. *Lind. on diseases in hot climates. p.* 308.

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ORD. XV. ROTACEÆ.

(From Rota, a Wheel.)

Plants with wheel-shaped flowers, or expanded horizontally, and without a tubular base.

GENTIANA PURPUREA. PURPLE GENTIAN.

SYNONYMA. Cursuta. *Pharm. Edinb.* Gentiana major purpurea. *Bauh. Pin.* 187. Gentiana major flore purpureo. *Flor. Dan. t.* 50. Gentiana corollis campaniformibus verticillatis, foliis imis petiolatis ellipticis. *Hall. Helv.* Gentiana purpurea. *Ait. Hort. Kew. Jacquin. Obs. 2. t.* 39.

Pentandria Digynia. *Lin. Gen. Plant.* 322.

Gen. Ch. *Cor.* monopetala. *Caps.* 2-valvis, 1-locularis: *Receptaculis.* 2, longitudinalibus.

Sp. Ch. G. corollis subquinquefidis campanulatis verticillatis, calycibus truncatis.

ROOT perennial, cylindrical, slender, branched; externally brown, internally yellowish. Stem erect, simple, smooth, strong, succulent, rising to a foot in height. Lower leaves nearly elliptical, ribbed, entire. Upper leaves in pairs, sheath-like, concave, embracing the stem, pointed, ribbed, enclosing the flowers. Flowers

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large, purple, standing in whorls, upon short peduncles. Calyx a deciduous spatha. Corolla bell-shaped, purplish, plicated, divided at the limb into five ovate dotted segments. Filaments commonly five, of the length of the germen, and furnished with conical antheræ. Germen oblong. Style cleft, points reflexed, furnished with blunt stigmata. Capsule ovate, two-celled, containing numerous small seeds.

It is a native of the Alps, and was first introduced for cultivation in this country by Professor de Saussure in 1768.[a]

The annexed plate is given on the authority of the Edinburgh Pharmacopœia, in which the Cursuta, or root of this plant, has been lately received into the Materia Medica.

This root, both in appearance and taste, so exactly resembles that of the yellow or common officinal Gentian, that they are not to be distinguished from each other; and in some northern countries, where the latter is scarce, the former is usually employed in its stead.[b]

Its medical character is therefore to be regarded as the same with that of the gentiana lutea, of which an account is given in the following pages.

[a] See *Hort. Kew. i. p.* 322.

[b] See *Linn. Flor. Suec. & Haller. l. c.*

The remaining medicinal plants of the order Rotaceæ, are,

Systematic Names.	Officinal.	English.
Anagallis arvensis	Anagallis	Pimpernel
Lysimachia Nummularia	Nummularia	Money-wort
Primula veris	Paralysis	Cowslip
Cyclamen europæum	Cyclamen	Common Cyclamen

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GENTIANA LUTEA. YELLOW GENTIAN.

SYNONYMA. Gentiana. *Pharm. Lond. & Edinb.* Gentiana major. *Gerard. Emac. p.* 432. *Raii Hist. p.* 716. Gentiana major lutea. *Bauh. Pin. p.* 187. *Park. Parad. p.* 350. *Tournf. Inst. p.* 80. Gentiana vulgaris major, Ellebori albi folio. *J. Bauh. Hist. vol. iii. p.* 520. Gentiana caule folioso, foliis ovatis nervosis, floribus rotatis verticillatis. *Hall. Stirp. Helv. n.* 637. Icon, *Miller's Figures, tab.* 139. *fig.* 2.

Sp. Ch. G. corollis subquinquefidis rotatis verticillatis, calycibus spathaceis.

THE root is perennial, long, cylindrical, externally brown, internally yellowish: the flower stem is strong, smooth, erect, tapering, and rises two or three feet in height: the leaves, which proceed from the lower part of the stem, are spear-shaped, large, entire, ribbed, sessile, and pointed; those on the upper part are concave, smooth, egg-shaped, and of a pale or yellowish green colour: the flowers are large, yellow, produced in whorls, and stand upon strong peduncles: the calyx is a membranous deciduous spatha: the corolla is divided to its base into five or more long narrow spreading elliptical segments: the filaments vary in number from five to eight; they are shorter than the corolla, and furnished with long erect antheræ: the germen is long, conical, without a style, and supplied with two reflexed stigmata: the capsule is conical, of one cell, divided into two valves, and contains numerous small seeds. It flowers in June and July.

This plant is a native of the Alps, and according to the Hortus Kewensis was first cultivated in Britain in the time of Gerard. But

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the Gentian with which our shops are supplied, is imported from the mountainous parts of Switzerland, Germany, &c. *

The root, which is the only medicinal part of the plant, has little or no smell, but to the taste it manifests great bitterness, a quality which is extracted by aqueous, spirituous, and vinous menstrua, though not in so great a degree by water as by spirit; and the extract of this root, prepared from the watery infusion, is less bitter than that made from the spirituous tincture.[a]

Gentian† is the principal bitter now employed by physicians;‡ and as the intense bitters are generally admitted to be not only tonic and stomachic, but also anthelmintic, antiseptic, emmenagogue, antiarthritic, and febrifuge, this root has a better claim to the possession of these powers than most of this kind.

Many dyspeptic complaints, though arising from debility of the stomach, are more effectually relieved by bitters than by Peruvian bark; and hence may be inferred their superior tonic power on the organs of digestion. And the Gentian, joined with equal parts of tormentil or galls, we are told by Dr. Cullen[b] constantly succeeded in curing intermittents, if given in sufficient quantity.

As a simple bitter the Gentian is rendered more grateful to the stomach by the addition of an aromatic, and for this purpose orange peel is commonly employed. The officinal preparations of this root are, the infusum gentianæ compositum, & tinctura gentianæ com-

* In pratis montanis & subalpinis, post horæ adscensum ex planitie ubique, ut super *Neuenstatt* versus *Nodz*, sub *Penex*, in pratis *Jorogne*. Latos tractus occupat, quæ a pecore non tangatur. *Haller, l. c.*

[a] *Lewis, M. M. p. 320.*

† The name Gentian is supposed to be taken form Gentius, King of Illyria, who first discovered its uses.

‡ The roots of other species of Gentian are reported to be equally bitter, and are preferred by some to that of the lutea viz. G. purpurea, asclepiadea, Pneumonanthe, campestris, Amarella.

[b] *M. M. v. ii. p. 72.*

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posita, ph. L. and the infusum amarum, vinum amarum, tinctura amara, sive elixir stomachicum,* ph. E. and by both pharmacopœias the extract is directed.

* Dr. Cullen observes, that this is the same as Stoughton's elixir.

About forty-five years ago, a poisonous root was discovered in some of the parcels of Gentian brought to London, not however before its fatal effects had been experienced. (See *Dr. Brocklesby's account, Phil. Trans. vol.* 45. *p.* 240.) This root was probably that of the Aconitum Thora, which is known to grow along with the Gentian. The former is to be distinguished from the latter by having a strong smell, and being without bitterness, and of a whitish colour.

CHIRONIA CENTAURIUM. CENTAURY.

SYNONYMA. Centaurium minus. *Pharm. Lond. & Edinb. Rati Hist. p.* 1092. *Synop. p.* 286. *Bauh. Pin. p.* 278. Centaurium minus vulgare. *Park. Theat. p.* 272. Centaurium parvum. *Gerard Emac. p.* 547. Gentiana caule dichotomo; floribus infundibuliformibus, striatis, quinquefidis. *Hall. Stirp. Helv. n.* 648. Gentiana Centaurium. *Lin. Sp. Plant. p.* 332. *Huds. Flor. Ang. p.* 102. *Lightf. Flor. Scot. p.* 152. *Flor. Dan. Icon.* 617. Chironia Centaurium. *Withering Bot. Arrang. p* 237. *Curtis Flor. Lond. Ic.* 247.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 255.

Ess. Gen. Ch. *Cor.* rotata. *Pistillum* declinatum. *Stam.* tubo corollæ insidentia. *Antheræ* demum spirales. *Pericarp.* 2-loculare.

Sp. Ch. Gentiana corollis quinquefidis infundibuliformibus, caule dichotomo, pistillo simplici. *L. Syst. Veg.* 268.

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THE root is annual, woody, fibrous, and of a yellowish colour: the stalk is erect, with few branches, smooth, angular, and usually rises from six to ten inches in height: the leaves are opposite, sessile, smooth, oblong, ribbed, obtusely pointed: the flowers are terminal, produced in a corymbus or bunch, and are of a pink or rose colour: the calyx is divided into five narrow erect permanent segments: the corolla is funnel-shaped, the *tube* of which is cylindrical, longer than the calyx, and divided at the *limb* into five egg-shaped segments: the filaments are five, white, slender, shorter than the corolla, and furnished with yellow oblong antheræ, which finally become twisted: the germen is oblong, green, supplied with a simple style, which is crowned with a clubbed stigma. It grows in woods and pastures, and flowers in July.

As the botanical description of this plant corresponds exactly with that of the genus chironia,[a] we have followed several respectable botanists, and separated it from the gentians, with which it was originally classed by Linnæus.

"The active parts of this plant are dissolved readily both by water and rectified spirit: the herb, after infusion in sufficient quantities of either menstruum, remaining insipid. Water takes up along with the bitter a large quantity of an insipid mucilaginous substance, whereas rectified spirit seems to dissolve little more than the pure bitter part. Hence on inspissating the two solutions to the same consistences, the watery extract proves much less bitter than the spirituous, and its quantity above four times greater." *

Centaury is justly esteemed to be the most efficacious bitter of all the medicinal plants indigenous to this country. It has been recommended as a substitute for gentian,[b] and, by several, thought

[a] It is aptly observed by Mr. Curtis, that Centaurium thus assumes its proper name κεντανριον, from Chiron the Centaur. See *Plin. L.* 25. *c.* 6. *p.* 635.

* Lewis, *M. M.*

[b] "It is said that the extract of this plant is less agreeable than that of gentian; but I find no difference between them, and think it should be constantly substituted for that of gentian, as it may be more cheaply prepared." *Cullen, M. M. vol. ii. p.* 74.

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to be a more useful medicine: experiments out of the body also shew it to possess an equal degree of antiseptic power.[c] To it therefore are to be ascribed all those medical effects noticed of the preceding article. Many authors have observed, that along with the tonic and stomachic qualities of a bitter, Centaury frequently proves cathartic; but it is probable, that this seldom happens, unless it be taken in very large doses. The use of this, as well as of the other bitters, was formerly common in febrile disorders, previous to the knowledge of peruvian bark, which now supersedes them perhaps too generally; for many cases of fever occur, which are found to be aggravated by the Cinchona, yet afterwards readily yield to simple bitters.

The tops[d] of Centaury plant are directed for use by the Colleges, and are most commonly given in infusion, but they may also be taken in powder, or prepared into an extract.

[c] See Pringle, *Diss. of the Army, App. p. 66.*

[d] Lewis asserts, that no bitterness resides in the petals, but from tasting the recent flowers we discover this quality in a very considerable degree.

MENYANTHES TRIFOLIATA. WATER TREFOIL, or BUCKBEAN.

SYNONYMA. Trifolium Paludosum, Pharm. Lond. & Edinb. Menyanthes Palustre Triphillum, Tourn. Boerh. Ray. Trifolium. Fibrinum, Off. Germ. Acopa, Dioscor. Hist. Oxon.

Class Pentandria. *Order* Monogynia. L. *Gen. Plant.* 202.

Ess. Gen. Ch. *Cor.* hirsuta. *Stigma* 2-fidum. *Caps.* 1-locularis.

Sp. Ch. M. fol. ternatis.

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THIS plant is common in every part of England; it grows in marshes and ponds, producing its flowers in an open terminal spike about the latter end of June. The scapus, or stalk, rises from six to twelve inches in height. The petals are sometimes entirely white, but more commonly rose-coloured on the outside, and within they are finely fringed, so as to have a hairy or fibrous appearance, hence named Trifolium Fibrinum: the root is perennial, creeping, and jointed, sending forth many long slender filaments. The trifoliata is easily distinguished from the other species of Menyanthes by its ternate leaves, which have been thought to resemble those of the common garden bean, and have given it the English name, Buckbean.

The whole plant is so extremely bitter, that in some countries it is used as a substitute for hops in the preparation of malt liquor[a]; yet Linnæus observes, that the poorer people in Lapland make a bread of the powdered roots mixed with meal, but at the same time he acknowledges it is a very unpalatable food.[b]

The blackness manifested by adding a solution of green vitriol to the juice, or to a strong infusion of the leaves of Buckbean, is a sufficient test of its astringency; while a dram of the powdered leaves seldom fails to open the body, or produce vomiting; so that in common with the tonic properties of a bitter, it seems farther to possess a considerable share of medicinal activity: we can therefore more easily credit the reports of its success in a great number of chronic diseases mentioned by various authors,[c] as scurvy, dropsy,

[a] Flor. Lappon. p. 50. [b] Ibid.

[c] Trifolii Fibrini Historia, selectis observationibus et perspicuis exemplis, illustrata a Jo. Franco, anno 1701.

Recte observavit D. Tancredus Robinson herbam hanc Germanis, aliisque gentibus septentrionalibus nunc dierum unicè charam et in magno pretio esse, et assiduo usu frequentari in omnibus fere morbis, ut certissimam panaceam ad quam etiam in deploratis affectibus, velut ad sacram anchoram, confugiunt (Raii Histor. Plant. p. 1099.) See also Willius Act. Hafn. vol. 3. Sim. Pauli, Quadrip. Bot. p. 173. et seq. Tilling Misc. N. curios. Dec. 2. Gulbrand Diss. de Sanguifluxu Uterino. Du Clos Anc. Mem. p. 329. Schulz Mat. Med. p. 445.

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jaundice, asthma, periodical head-achs, intermittents, hypochondriasis, cachexia, obstructio mensium, rheumatism, scrophula, worms, gout. Dr. Boerhaave was relieved in the last mentioned complaint by drinking the juice mixed with whey;[d] and Dr. Alston tells us, that "this plant had remarkable effects in the gout, in keeping off "the paroxysms;" but adds, "though not to the patient's advantage."[e]

In confirmation of the good effects of Water Trefoil in dropsies, we are told that sheep, when forced to eat it, are[f] cured of the rot; (oves tabidæ) yet as we have but few and imperfect proofs of its diuretic powers, this fact will be considered of little weight.

Bergius confines the uses of this plant to scorbutus, leucophlegmatia, arthritis, rheumatismus, cacoethes,[g] and this specification is still farther contracted by later writers on the Materia Medica. In Lewis's Mat. Med. *(by Mr. Aikin)* it is said, that the leaves of buckbean "have of late years come into common use as an alterative "and aperient, in impurities of the humours, and some hydropic "and rheumatic cases;" and as an active and eccoprotic bitter, we should suppose them not ill adapted to supply the want of bile in the *primæ viæ,* and thus infer their use in protracted jaundice, and other biliary obstructions. Dr. Cullen has "had several in-"stances of their good effects in some cutaneous diseases of the "herpatic and seemingly cancerous kind."[h]

The leaves may be given in powder from ℈i to ℈ij for a dose two or three times a day, but a strong infusion of them is perhaps preferable, and with delicate stomachs it may be necessary to conjoin a grateful aromatick: they impart their properties both to watery and spirituous menstrua, and an extract is ordered to be prepared from them in the Ph. Dan. p. 171. Efficax et frequentis commodique usus. *Murray.*

[d] Eph. Nat. Cur. Dec. I. ann. III. Obs. 123. (this answers Dr. Alston's query, who asks, "Where is this related?" Alston. Mat. Med. vol 2. p. 240.

[e] l. c. [f] Dr. T. Robinson. [g] Mat. Med. vol 1. p. 91.

[h] Mat. Med. vol. 2. p. 75.

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ORD. XVI. SEPEARIÆ.

(From *Sepes*, a hedge)

Woody Plants, which, from their size and beauty are proper orna ments for hedges.

OLEA EUROPÆA. EUROPEAN OLIVE

SYNONYMA. Oliva. *Pharm. Lond.* & *Edinb.* Olea. *Dod Pempt. p.* 821. Olea sativa. *Bauh. Pin. p.* 472. *Gerard. Emac p.* 1392. *Park. Theat. p.* 1436. *Raii Hist. p.* 1541. *Conf. D Hamel, Traité des Arbres, T.* 2. *p.* 54. *Tab.* 14. *Zait. Hebræorum* Ελαια, *Græcorum.*

Varietates sunt, (α *Common)* foliis lanceolatis planis subtus incanis

β *(Long-leav'd)* foliis lineari-lanceolatis planis subtus argenteis.

γ *(Broad-leav'd)* foliis oblongis planis subtus incanis.

δ *(Iron-coloured)* foliis lanceolatis subtus ferrugineis.

ε *(Twisted-leav'd)* foliis oblongis oblique flexis subtus pallidis.

ζ *(Box-leav'd)* foliis oblongo-ovalibus, ramis patentibus divari catis. *Aiton. Hort. Kew.*

Class Diandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 20.

Ess. Gen. Ch. *Cor.* 4-fida: laciniis subovatis. *Drupa* monosperma

Sp. Ch. O. foliis lanceolatis integerrimis, racemis axillaribus coarctatis. *Hort. Kew.*

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THIS tree usually rises about twenty feet in height, and sends off numerous long branches, covered with bark of a greyish colour: the leaves are firm, narrow, lance-shaped, entire, on the upper side of a bright green, on the under whitish, and stand in pairs upon short footstalks: the flowers are small, white, numerous, and proceed in clusters near the footstalks of the leaves: the calyx is tubular, and divided at the brim into four small erect deciduous segments: the corolla is a funnel-shaped petal, consisting of a short tube, about the length of the calyx, and divided at the border into four semiovate segments: the filaments are two, tapering, opposite, and crowned with erect antheræ: the germen is round, and supports a simple short style, furnished with a stigma, which is cleft in two, and each division notched at the apex: the fruit is of the drupous kind, of an oblong or oval shape, containing a nut of the same form. It is a native of the south of Europe, and flowers from June till August.

The Olive, in all ages, has been greatly celebrated and held in peculiar estimation, as the bounteous gift of Heaven; and in gratitude to the Deity, it was formerly exhibited in the religious ceremonies of the Jews. It is still considered as emblematic of peace and plenty; and the great quantity of oil which in some countries it produces, effectually realizes one of these blessings. The Olive has been long cultivated in Britain; it is mentioned in the Catalogues plantarum Horti Medici Oxoniensis, published in 1648; and when sufficiently sheltered, it bears the cold of our winters very well; though in this country it rarely produces flowers, and we believe never ripens its fruit.[a]

[a] Miller says, that "several Olive trees were planted against a warm wall at Cambden-house, near Kensington, which succeeded very well till their tops advanced above the wall; after which they were generally killed in winter, so far down as the top of the wall. These, in 1719, produced a good number of fruit, which grew so large as to be fit for pickling; but since that time their fruit has seldom grown to any size." *Dict.*

For an account of the management and cultivation of Olives, see Bernard, *De l'Olivier*, 1788, *couronné par L'Académie de Marseille.* Couture, *Traité de l'Olivier* 1786. Du Hamel, *l. c.* Sieuve, *Observations, &c.* 1769.

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The varieties of this tree are numerous, distinguished not only by the form of their leaves, as already noticed, but also by the shape, size, and colour of the fruit; as the large Spanish Olive, the small oblong Provence Olive, the oblong dark green Olive, the small roundish white Olive,[b] (Aglandau) the large fleshy or Royal Olive, the large round Olive, (Ampoulan) the small round reddish black Olive, and the small fragrant or Lucca Olive. Of these, the two first sorts, when pickled, are well known to us by the names of Spanish and French Olives, which to many are extremely grateful, and have been supposed to excite appetite and to promote digestion. Pickled Olives are prepared from the green unripe fruit, which is repeatedly steeped in water, to which some add alkaline salt or quick lime, in order to shorten the operation; for when macerated in water only, the Olives require a long time before their bitterness is sufficiently extracted; after this they are washed and preserved in a pickle of common salt and water, to which an aromatic is sometimes added.

The principal consumption of Olives is in the preparation of the common sallad oil, or oleum olivarum of the pharmacopœias, which is obtained by grinding and pressing them when thoroughly ripe: the finer and purer oils issues first by gentle pressure, and inferior sorts on heating the residuum, and pressing it more strongly. The best Olive oil is of a bright pale amber colour, bland to the taste, and without any smell: it becomes rancid by age, and the sooner, if kept in a warm situation: by cold, at the 38 degree of Fahr. therm. it congeals, and does not become rancid if kept in a degree of cold equal to the freezing point of water.[c] All the mild expressed oils of vegetables are nearly of the same nature; a preference however, in the opinion of Dr. Cullen, should be given to the most fluid, and hence the oil of olives, and that of almonds, are most commonly directed for internal use. Oil, in some shape, forms a considerable part of our food, both animal and vegetable,

[b] This variety affords the best oil.

[c] *Muschenbroeck, Phil. Nat. tom. ii. p.* 616.

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and affords much nourishment: with some, however, oily substances do not unite with the contents of the stomach, and are frequently brought up by eructation; this happens more especially to those whose stomachs abound with acid to an uncommon degree.[d] Oil considered as a medicine is supposed to correct acrimony, and to lubricate and relax the fibres; and therefore has been recommended internally to obviate the effects of various stimuli, which produce irritation, and consequent inflammation; on this ground it has generally been prescribed in coughs, catarrhal affections, and erosions. This oil has likewise been successfully used in worm cases, and in nephritic pains, spasms, colics, constipations of the bowels, &c. Externally it has been found an useful application to bites and stings of various poisonous animals,[e] burns, tumours, and other affections, both by itself or as mixed in liniments or poultices. Oil rubbed over the body has been found by many of great service in dropsies, particularly in ascites, in which three instances of its success are related in the Philosophical Transactions by Dr. Oliver.[f] Boenniken* has mentioned the successful use of oil in

[d] *Cullen, M. M. vol. i. p.* 302.

[e] See the experiments of William Oliver, related in the Philosophical Transactions, vol. 39. p. 310. by which it appears that this man suffered his arm to be bitten by serpents, and waited till most violent symptoms ensued, when they were soon removed by applying warm oil of Olives to the affected part. Similar experiments were made upon pigeons, dogs, &c. with equal success. It failed however at Oxford, where these trials were made upon poultry, &c. See *l. c. p.* 394. Numerous experiments of this kind were repeated with various success, and published in the Mem. de L'Acad. de Sc. 1737. It is to be regretted, that the particular species of serpent, by which the bites were given, was not ascertained in any of the cases alluded to. Linnæus was much disappointed in the use of the oil, and says, that a woman, bitten by the Coluber Chersea, died in great agony, though the oil was liberally administered both externally and internally. *Amœn. Acad. vol. vi. p.* 213. *& vol ii. p.* 407.

[f] *Philosophical Trans. vol.* 49. *p.* 46. For other instances, see *Ann. Med.* 1. *p.* 90. *Beobacht. a. d. Arzneyw. p.* 569. *sqq.* And *Gardane, Gazette de Santé* 1773. *&* 1774. *p.* 29, 254, 267, 279.

* Fränk. Samml. T. *B.* 590. sqq.

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rabies canina; and a farther account of its efficacy in that disease was lately read before the Medical Society of London: but though Boenniken attributes the cure of his patient to the oil, yet we find other means were employed, and the bitten part was scarified and blistered. Respecting the trial of this remedy here in hydrophobia we can only observe, that it has been since used in a similar case without success, therefore at best little confidence is to be placed on a solitary instance. In regard to the general effects of oil, taken internally, we may remark, that though its effects as a medicine extend over the primæ viæ, yet it may be very rationally doubted if it produces any medicinal effect after passing into the sanguiferous system.

This oil enters several officinal compositions, and when united with water, by the intervention of alkali, is usually given in cough and hoarseness, &c. The effects of soap will be noticed under the plant Salsola Kali.

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ORD. XVII. BICORNES.

(From *Bis* & *Cornu*, a horn)

Where the anthers have the appearance of two horns. The whole Order consists entirely of shrubs.

SANTALUM ALBUM. WHITE or YELLOW SAUNDERS.

SYNONYMA. Santalum citrinum. *Pharm. Edinb. Park. Theat.* 1604. *Raii Hist.* 1804. Santalum pallidum. *Bauh. Pin.* 392. *Ger. Emac.* 1586. Sandalum. *Rumph. Herb. Amb. Tom. 2. p. 42. t.* 11. *Breyn. Icon. et. Descript. p.* 19. *t.* 5. *f.* 1.

Tetrandria Monogynia. *Schr. Gen. Plant.* 215.

Gen. Ch. Cor. subinfundibulif. 4-fida staminifera: glandulis 4; staminibus alternantibus. *Drupa* rotunda monosperma. *Woodv.*

A LARGE tree, covered with reddish brown bark. Leaves ovate, somewhat lanceolate, entire, pointed, smooth, opposite, on footstalks. Flowers numerous, purple, terminating the younger branches in compound spikes. Calyx small, four-toothed deciduous. Corolla monopetalous, consisting of a short ovate tube, divided at the limb into four sharp teeth. Filaments four, short, hairy, placed at the mouth of the tube, and furnished with large

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antheræ: between each filament stands a glandular nectarium, crenated at the top. Germen ovate. Style tapering, of the length of the tube of the corolla. Stigma four-parted. Fruit drupaceous, round, containing a hard seed or stone.

It is a native of the East Indies, especially in the Island of Timor, and has not yet been cultivated in this country. The plate of it here prefixed is taken from a specimen in the possession of Sir Joseph Banks.

From the structure of the flower of the Santalum, as here delineated, and from the description of it which is given above, it does not appear to have been sufficiently understood by any of the botanists, who have hitherto described it; so that we have been under the necessity of assigning to this genus a new essential character.[a]

The four glands, placed within the corolla, were probably mistaken for stamina, which induced Linnæus at first to class the Santalum among the octandria.

In the last edition of the *Systema Vegetabilium* this error is corrected, and had nothing more been done, the character would have remained tolerably complete; but unfortunately Cor. 1-petala was changed to 4-petala; and thus a new error was introduced, which we hope will in future be adjusted.

White Saunders wood is of a pale white, often with a yellowish tinge; and being destitute of taste or odour, it is superseded by the Santalum trinum, which is of a brownish yellow colour, of a bitterish aromatic taste, and of a pleasant smell, approaching to that of the rose.

Both kinds are brought from the East Indies in billets, consisting of large thick pieces, which, according to Rumphius, are sometimes taken from the same, and sometimes from different trees. For though the white and the yellow Saunders are the wood of the same species of tree, yet the latter, which forms the central part of the tree, is not always to be found in sufficient quantity to re-

[a] Respecting the calyx we are unable to speak decidedly from our own observation.

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pay the trouble and expence of procuring it, especially unless the trees be old; while the white, which is the exterior part of the wood, is always more abundant, and is consequently much cheaper.

"Yellow Saunders, distilled with water, yields a fragrant essential oil, which thickens in the cold into the consistence of a balsam, approaching in smell to ambergris, or a mixture of ambergris and roses: the remaining decoction, inspissated to the consistence of an extract, is bitterish and slightly pungent. Rectified spirit extracts by digestion considerably more than water: the colour of the tincture is a rich yellow. The spirit, distilled off, is slightly impregnated with the fine flavour of the wood; the remaining brownish extract has a weak smell, and a moderate balsamic pungency."[b]

The wood is chiefly valued on account of its fragrance; hence the Chinese are said to fumigate their clothes with it, and to burn it in their temples in honour of their gods. Though still retained in the Materia Medica of the Edinburgh Pharmacopœia, it cannot be thought to possess any considerable share of medicinal power. Hoffman considers its virtues as similar to those of ambergris; and some others have esteemed it in the character of a corroborant and restorative.

[b] *Lewis, M. M. p.* 578.

ARBUTUS UVA URSI. TRAILING ARBUTUS; Or BEAR-BERRY.

SYNONYMA. Uva ursi. *Pharm. Lond. & Edinb.* Uva ursi. *Clus. Rarior. Plant. Hist. p.* 62. Vaccinia ursi sive Uva ursi apud Clusium. *Gerard. Emac. p.* 1416. *J. Bauh. Hist. vol. i. p.* 523. *Bauh. Pin. p.* 470. *Park. Theat. p.* 1457. *Raii Synopsis, n.* 457. *Hist. p.* 1489. *sp.* 5. *Flor. Dan.* 33. *Murr. Comment. de Arbuto uva ursi. Gotting.* 1764. *Girardi Novæ Animadver. Patavii* 1764. *Sandifort Dis. tab.* 8. *Withering. Bot. Arr. p.* 428.

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Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 220.

Ess. Gen. Ch. *Cal.* 5-partitus. *Cor.* ovata: ore basi pellucida. *Bacca* 5-loeularis.

Sp. Ch. A. caulibus procumbentibus, foliis integerrimis.

THE root is perennial, long, branched, and fibrous: the stems are numerous, procumbent, spreading, woody, scarcely a foot in length, and seldom divided into branches: the leaves are oblong, obtuse, narrowed towards the base, entire, thick or fleshy, smooth, without footstalks, of a dingy green colour, and closely surround the upper part of the stalk: the flowers are whitish or flesh-coloured, and terminate the stems in small clusters upon short slender pedicles: the calyx is very small, and divided into five obtuse teeth: the corolla consists of a single petal, which is tubular, oval, contracted,[a] and divided at the margin into five minute reflexed segments: the filaments are ten, short, downy, tapering, and crowned with erect reddish antheræ: the germen is oval, and placed above the insertion of the corolla: the style is tapering, longer than the filaments, and terminated with a simple stigma: the fruit is a pulpy, round, red berry. It is a native of the Northern parts of Britain, and flowers in June.

Professor Murray has not been able to determine whether this plant is the ἄρκευθος σαφυλη, which is much commended by Galen [b] in cases of hæmoptysis, or the ἰδαια ῥιζη used as a general astringent by Dioscorides.[c] It grows in great abundance in different parts of Europe and America, particularly in barren sandy soils; and that which is found in dry, lofty, and exposed situations, is preferred [d] for medical use to that which is collected in valleys and shady

[a] Our artist, by supposing the contracted state of the corolla to be merely the effect of drying, has made it appear too inflated in the annexed figure.

[b] *De comp. med. sec. loc. L. 7. c. 4. p.* 548. *Ed. Chart.* [c] *Mat. Med. L. 4. c. 42. p.* 482. *Ed. Vergil.* [d] Girardi *l. c. p.* 454.

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grounds. The leaves of this plant, in a dried state, have no remarkable smell, but a bitterish astringent taste, and by some are used for the purpose of dying an ash-colour, and for tanning leather. The sapid matter of these leaves has been attributed rather to the presence of gummy than of resinous particles, as watery menstrua extract their virtues more completely than spirituous.[e]

The Uva Ursi, though employed by the ancients in several diseases requiring astringent medicines, had almost entirely fallen into disuse till about the middle of the present century, when it first drew the attention of physicians as a useful remedy in calculous and nephritic affections; and in the years 1763 and 1764, by the concurrent testimonies of different authors,[f] it acquired remarkable celebrity not only for its efficacy in gravelly complaints, but in almost every other to which the urinary organs are liable, as ulcers of the kidneys and bladder, cystirrhœa, diabetes, &c. and its utility was then thought to be so fully established, that a Spanish writer[g] made it his boast that the man, to whom these important discoveries of the effects of this plant ought first to be referred, was his countryman. He was however superseded in this claim by the physicians at Montpelier, who had been in the habit of prescribing Uva Ursi in these diseases for many years before.[h] But the cases published successively by De Haen tended more to raise the medical character of Uva Ursi over Europe than all the other books professedly written on the virtues of this plant: and encouraged by his success, many practitioners in this country have been induced to try its effects; and though the use of this plant has been frequently observed to mitigate the pains in calculous cases, yet in no instances do we find that it has produced that essential or

[e] Murray *App. Med. vol. ii. p.* 58.

[f] *De Haen, Gerhard, Quer, Girardi, Murray, Buchoz,* and others.

[g] Quer. See the French version of his book, viz. *Dissertation sur la maladie nephritique, et sur son veritable specifique le Raisin d'ours, p.* 84.

[h] Vide Barbeirac *form. Med. p.* 163.

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permanent relief, which is said to have been experienced by the German physicians.[i]

From the experiments of Dr. Alexander,[k] the leaves of Uva Ursi seem to possess very little diuretic power, and those made by Murray[l] show that they have no material effect upon the urinary calculi: the efficacy they may therefore have in relieving the calculous diseases, we are disposed to ascribe to their astringency; and in confirmation of this opinion we may cite the observation of Dr. Cullen, who, in his chapter on Astringents,[m] notices the dissertation of De Heucher, under the title of *Calculus per adstringentia pellendus:* and though he does not think with this author that astringents are lithontriptics, yet from his own experience, and that of others, he believes they often have a powerful effect in relieving calculous symptoms; and in proof of this he refers to the exhibition of the Uva Ursi. The leaves may be employed either in powder or decoction; the former is most commonly preferred, and given in doses from a scruple to a dram two or three times a day.

[i] "The trials of the Uva Ursi made in this country, have by no means answered expectation: in all the cases that have come to my knowledge it produced great sickness and uneasiness, without any apparent benefit, though continued for a month." *Lewis M. M. p.* 683. And in a case of Incontinence of urine, Dr. Fothergill observes, "The Uva Ursi, so much extolled of late in ulcers of the urinary passages, seemed but to aggravate the symptoms." *Med. Obs. & Inquir. vol. iii. p.* 144. But in the preface to this volume we are told, "that the Uva Ursi had been frequently prescribed successfully by many of the Members of the *Society of Physicians in London.*"

[k] See his *Exp. Essays, p.* 154.

[l] The calculi were macerated in a strong decoction of the Uva Ursi. *Vide l. c.*

[m] *Mat. Med. vol. ii. p.* 12. *& seq.* And Dr. Withering, speaking of the effects of this plant, says, "Perhaps, upon the whole, we shall find it no better than other vegetable astringents; some of which have long been used by the country people in gravelly complaints, and with very great advantage; though hitherto unnoticed by the regular practitioners." *l. c.*

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STYRAX OFFICINALE. OFFICINAL STORAX.

Styrax. *Pharm. Lond.* & *Edinb.* ab hac arbore effluit.

SYNONYMA. Styrax folio mali cotonei. *Bauh. Pin. p.* 452. Styrax arbor. *J. Bauh. Hist. vol. i. p.* 341. *Gerard. Emac. p.* 1526. *Raii Hist. p.* 1680. Styrax arbor vulgaris. *Park. Theat. p.* 1530. *Lin. Spec. Plant. p.* 635. *Miller's Figures, p.* 260.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 595.

Ess. Gen. Ch. Cal. inferus. *Cor.* infundibuliformis. *Drupa* 2-sperma.

Sp. Ch. S. foliis ovatis subtus villosis, racemis simplicibus folio brevioribus. *Ait. Hort. Kew.*

THE Storax-tree usually rises above twenty feet in height; it sends off many strong branches, which are covered with a roughish bark of a grey colour: the leaves are broad, elliptical, entire, somewhat pointed, on the upper surface smooth, and of a light green colour, on the under surface covered with a whitish down; they are placed alternately, and stand upon short footstalks: the flowers are large, white, and disposed in clusters upon short peduncles, which terminate the branches: the corolla is monopetalous, funnel-shaped, and divided at the limb into five lance-shaped segments: the filaments are ten, placed in a regular circle, and seem to adhere towards the base: the antheræ are erect and oblong: the germen is oval, and supports a slender style, with a simple stigma: the fruit is a pulpy pericarpium, which contains one or two nuts of an oval compressed figure. It is a native of Italy and the Levant, and flowers in July.

Gerard appears to be the first who cultivated the Storax-tree in England; and although it is indigenous to many of the southern

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parts of Europe, yet the resinous drug which it produces is only to be obtained in perfection from these trees growing in Asiatic Turkey.[a] The Storax issues in a fluid state from incisions made in the bark of the trunk, or branches, of the tree; and as it was formerly the custom to collect and export this gum-resin in reeds, it obtained the name of Styrax calamita. But the only two kinds of Storax[b] now to be met with in the shops may be divided into the pure and the common Storax; the first is usually in irregular compact masses, free from impurities, of a yellowish or reddish brown appearance, and interspersed with whitish tears, somewhat like Gum ammoniac or Benzoin; it is extremely fragrant, and, upon the application of heat, readily melts. This has been called Storax in the lump, red Storax, and the separate tears, Storax in the tear. The common Storax is in large masses, very light, and bears no external resemblance whatever to the former Storax, as it seems almost wholly composed of dirty saw-dust merely caked together by the resinous matter; and though much less esteemed than the purer kinds of Storax, yet when freed from the woody part, we are told that it possesses more fragrance, and is superior to the other kind. Rectified spirit, the common menstruum of resins, readily dissolves the Storax, which may be inspissated to a solid consistence, as directed for the *Styracis purificatio* in the London Pharm. without sustaining any considerable loss of its sensible qualities.

[a] "Copia ejus effluit ex arboribus procerioribus in Gallo-Provinciæ sylvis (de la Chartreuse de Montrieu, Du Hamel *Traité des arbres tom. ii. p.* 288), item incisione promanat in planitie quadam agri Tiburtini montium catena septentrionem versus cincta. (Mazeas, *Journal des Sçavans* 1769, *p.* 105. *Ed. in* 4^to^). Sed quæ in officinis servatur, orientalis originis est, transferturque ad nos ex Turcia per Massiliam." *Murray App. Med. vol. ii. p.* 80.

[b] It is necessary to observe, that no reference is here made to the *Styrax liquida*, which is produced from a very different tree, viz. the *Liquidamber styraciflua*; and, according to Monardes, is obtained by boiling the branches in water, which occasions the drug to separate, and rise to the surface, when it is skimmed off for use.

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" Common Storax, infused in water, imparts to the menstruum " a good yellow colour, some share of its smell, and a slight bal- " samic taste. It gives a considerable impregnation to water by " distillation, and strongly diffuses its fragrance when heated, " though it scarcely yields any essential oil. The spirituous solu- " tion, gently distilled off from the filtered reddish liquor, brings " over with it very little of the fragrance of the Storax; and the " remaining resin is more fragrant than the finest Storax in the " tear, which I have met with. The pure resin distilled without " addition, yields along with an empyreumatic oil, a portion of " saline matter, similar to the flowers of Benzoine: I have some- " times also extracted from it a substance of the same nature by " coction in water,"[e]

Storax, with some of the ancients, was a familiar remedy as a resolvent, and particularly used in catarrhal complaints, coughs, asthmas, menstrual obstructions, &c. and from its affinity to the balsams it was also prescribed in ulcerations of the lungs, and other states of pulmonary consumption. And our pharmacopœias formerly directed the *pilulæ e styrace;* but this odoriferous drug has now no place in any of the officinal compounds; and though a medicine which might seem to promise some efficacy in nervous debilities, yet by modern practitioners it is almost totally disregarded.

[e] Lewis Mat. Med. p. 621.

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STYRAX BENZOIN. BENJAMIN TREE.

Benzoë. *Pharm. Lond. & Edinb.* ex hac arbore exsudat.

SYNONYMA. Benjui. *Garcias ab Horto* in *Clusii Exoticis, p.* 155. Arbor Benzoini. *Grimm.* in *Ephemer. Acad. Nat. Curios. Dec. 2. Ann. I. p.* 370. *fig.* 31. *Sylvius* in *Valentini Historia Simplicium, p.* 487.

Benzuin. *Radermacher* in *Act. Societ. Batavicæ, vol. iii. p.* 44.

Benjamin *or* Benzoin. *Marsden's Hist. of Sumatra, p.* 123.

Laurus Benzoin. *Houttuyn* in *Act. Harlem. vol. xxi. p.* 265. *tab.* 7. See Dryander's *Botanical Description of the Benjamin Tree of Sumatra. Phil. Trans. vol. lxxvii. p.* 307.

Sp. Ch. S. foliis oblongis acuminatis subtus tomentosis, racemis compositis longitudine foliorum. *Dryander. l. c.*

THIS tree is of quick growth, and rises to a considerable height: it sends off many strong round branches, which are covered with a tomentose or whitish downy bark: the leaves are oblong, entire, veined, tapering to a long point, on the upper surface smooth, on the under downy; they stand alternately upon short footstalks, which are round, scored, and downy: the flowers are produced in bunches, and usually hang all on the same side upon short slender pedicles: the racemi, or common peduncles, are nearly of the length of the leaves, compound or branched, downy, and arise from the axillæ of the leaves: the calyx is short, bell-shaped, downy, and divided at the extremity into five obscure imperfect teeth: the corolla is monopetalous, externally of a cineritious colour, downy, and cut into five obtuse parallel segments growing close

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together: the filaments are ten, of the length of the calyx, adhering at the base, bearded towards the top, forming a circle upon the receptacle in which they are inserted, and crowned with linear erect antheræ: the germen is oval, downy, and placed above the insertion of the corolla: the style is filiform, longer than the stamina, and teminated with a simple stigma: the fruit is similar to that of the Styrax officinale.*

The botanical character of this tree was entirely mistaken by modern botanists, even till the year 1787, when that excellent naturalist, Mr. Dryander, fully ascertained it to be a styrax.[a] This was done at the request of Sir Joseph Banks, who obtained a proper specimen for the purpose from Mr. Marsden at Sumatra: and as we have copied the figure given by Mr. Dryander, we shall also transcribe the following observations with which it is introduced. "Though GARCIAS AB HORTO, GRIM, and SYLVIUS,[b] were acquainted with the real tree from which Benjamin, or Benzoin, is collected,

* Descriptio botanica a cl. Dryander.

Rami teretes, tomentosi.

Folia alterna, petiolata, oblonga, integerrima, acuminata, venosa, supra glabra, subtus tomentosa, palmaria. *Petioli* teretes, striati, canaliculati, tomentosi, brevissimi.

Racemi axillares, compositi, longitudine fere foliorum. *Pedunculi communes* tomentosi; *partiales* alterni, patentes, tomentosi. *Pedicelli* brevissimi. *Flores* secundi.

Calyx campanulatus, obsoletissime quinquedentatus, extus tomentosus, linea longior.

Petala quinque, (basi forte connata) linearia, obtusa, extus tomento tenuissimo cinerea, calyce quadruplo longiora.

Filamenta decem, receptaculo inserta, petalis paulo breviora, inferne connata in cylindrum longitudine calycis, superne infra antheras cliata. *Antheræ* lineares, filamentis longitudinaliter adnatæ, iisque dimidio breviores.

Germen superum, ovatum, tomentosum. *Stylus* filiformis, staminibus longior *Stigma.* simplex.

[a] L. c. Before this time however Sir Joseph Banks seemed to have no doubt that the Benjamin-tree was a styrax. Vide LODER in BALDING. *Med. Journ. P. 5. p. 50.*

[b] *Vide lib. in Synon. cit.*

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their descriptions of it are so imperfect and insufficient for its botanical determination, that succeeding botanists have fallen into many errors concerning it; and it is remarkable, that although this drug was always imported from the East-Indies, most of the later writers on the Materia Medica have conceived it to be collected from a species of Laurus, native of Virginia, to which, from this erroneous supposition, they have given the trivial name of Benzoin. This mistake seems to have originated with Mr. Ray, who in his Historia Plantarum, vol. ii. p. 1845, at the end of his account of the Arbor Benivifera of GARCIAS, says, "Ad nos scripsit D. *Tancredus* "*Robinson* Arborem resiniferam odoratam foliis citrinis prædictæ "haud absimilem transmissam fuisse e Virginia a D. Banister, ad "illustrissimum Præsulem D. Henr. Compton, in cujus instruc- "tissimo horto culta est.—Arbor ista Virginiana Citrii, vel Limonii "foliis Benzoinum fundens, in horto reverendissimi Episcopi "culta." This error was detected by Linnæus, but another was substituted by him in its place;[c] for in his Mantissa Plantarum Altera he tells us, that Benjamin is furnished by a shrub described there under the name of Croton Benzoë, and afterwards, in the Supplementum Plantarum, describes again the same plant, under the name of Terminalia Benzoin. M. Jacquin, who had been informed that this shrub was called by the French *Bienjoint*, supposes, with reason, that the similar sound of that word with Benjoin, the French name for Benjamin, may have occasioned this mistake.[d] Since that period, Dr. Houttuyn has described the Benjamin tree of Sumatra; but for want of good specimens has been so unfortunate as to mistake the genus to which it belongs."[e]

This tree, which is a native of Sumatra, is deemed, in six years, of sufficient age for affording the Benzoine, or when its trunk, ac-

[c] This discovery was not made till after the publication of his *Spec. Plant.* where it stands as a laurus.

[d] *Hort. Vindob. vol. iii. p.* 51.

[e] Houttuyn had the specimens from Rademacher, from which he determined the tree to be a laurus.

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quires about seven or eight inches in diameter; the bark is then cut through longitudinally, or somewhat obliquely, at the origin of the principal lower branches,[f] from which the drug exudes in a liquid state, and by exposure to the sun and air soon concretes, when it is scraped off from the bark with a knife, or chissel. The quantity of Benzoine which one tree affords never exceeds three pounds,[g] nor are the trees found to sustain the effects of these annual incisions longer than ten or twelve years.[h] The Benzoine which issues first from the wounded bark is the purest, being soft, extremely fragrant, and very white; that, which is less esteemed, is of a brownish colour, very hard, and mixed with various impurities, which it acquires during its long continuance upon the trees.[i] Eschelskron [k] distinguishes Benzoine into three kinds, viz. *Camayan poeti,* or white Benjamin, which, upon being melted in a bladder by the heat of the sun, appears marked with red streaks, or veins. *Camayan bamatta* is less white than the former, and often spotted with white circles, called eyes, from the number of which its goodness is estimated: it likewise melts by the heat of the sun. *Camayan itam,* or black Benjamin, which requires to be melted in hot water for its preservation in bladders. In Arabia, Persia, and other parts of the East the coarser kinds of Benjamin are consumed for fumigating and perfuming the temples, and for destroying insects.

The Benzoine which we find here in the shops "is in large brittle masses, composed partly of white, partly of yellowish or light brown, and often also of darker coloured pieces: that which is clearest, and contains most white matter, called by authors *benzoe amygdaloides,* is accounted the best." "This resin has very little taste, impressing on the palate only a slight sweetness: its smell, especially when rubbed or heated, is extremely fragrant and agreeable. It totally dissolves in rectified spirit, the impurities excepted,

[f] Vide *Grimm & Marsden, l. c. p.* 124.
[g] *Grimm. l. c.* [h] *Marsden. l. c.*
[i] *Grimm. l. c.* [k] Cfr. Eschelskron *Beschreib. von Sumatra. p.* 62.

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which are generally in a very small quantity, into a deep yellowish red liquor, and in this state discovers a degree of warmth and pungency, as well as sweetness. It imparts, by digestion, to water also a considerable share of its fragrance, and a slight pungency: the filtered liquor, gently exhaled, leaves, not a resinous or mucilaginous extract, but a crystalline matter, seemingly of a saline nature, amounting to one-tenth, or one-eighth, of the weight of the Benzoine."[l] Exposed to the fire in proper vessels, it yields a quantity of a white saline concrete, called flores benzëos, of an acidulous taste, and grateful odour, soluble in rectified spirit, and in water by the assistance of heat.

As the trees, which afford the drugs benzoine and styrax, are congeners, and as their resinous products are very similar in their external appearances, and not widely different in their sensible qualities, it is reasonable to suppose them analogous in their medicinal effects. Benzoine, however, though rarely employed in a simple state, has been frequently prescribed as a pectoral; and we find it recommended for inveterate coughs, asthmas, obstructions of the lungs, and phthisical complaints, unattended with much fever: it has also been used as a cosmetic, and in the way of fumigation for the resolution of indolent tumours. Dr. Cullen, who classes Benzoine with the stimulants, says, "The flowers, which is the only preparation employed, are manifestly a saline substance of the acid kind, of considerable acrimony and stimulant power, as I have found in every trial of them I have made. It has been recommended as a pectoral, and I have employed it in some asthmatic cases without finding it of use; and in a dose of half a dram it appeared to be heating and hurtful."[m] In the pharmacopœias the flowers are directed in the tinctura opii camphorata, and it is ordered in substance in the tinctura benzoës composita.

[l] *Lewis M. M. p.* 142.

[m] *Mat. Med. vol. ii. p.* 192. We may also notice, that Dr. Cullen thinks "the benzoine is a singular composition of an acid salt with an oily and resinous substance; but as a saline matter of the same kind is found in most of the turpentines and balsams—it appears to me, that the benzoin affords an analogy for explaining the composition of all these."

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RHODODENDRON CHRYSANANTHUM. YELLOW FLOWERED RHODODENDRON.

SYNONYMA. Rhododendron. *Pharm. Edinb.* Andromeda foliis ovatis, utrinque venosis corollis campanulatis obliquis. *Gmelin, Flor. Sib. iv. p.* 121. *tab.* 54. Rhod. Chrys. *Pallas, It. vol. iii. p.* 369. *App. p.* 792. *n.* 87. *tab. N. fig.* 1. 2. *Kolpin. monogr. cum figura Pallasii.* R. foliis ovatis scabris, margine reflexis, subtus glabris, umbellis terminalibus, corollis flavis irregularibus. *Flora Rossica, tom. i. p.* 44. *tab.* 30.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 548.

Ess. Gen. Ch. *Cal.* 5-partitus. *Cor.* infundibulif. *Stam.* declinata. *Caps.* 5-locularis.

Sp. Ch. R. foliis oblongis impunctatis supra scabris venosissimis, corolla rotata irregulari, gemma florifera ferrugineo-tomentosa. *Supp. Plant.* 237.

THIS beautiful shrub sends off spreading branches, which are covered with brown bark, and rise about a foot in height: the leaves are oblong, obtuse, thick, veined, reflexed at the margin, on the upper side of a deep green, beneath ferruginous, or glaucous, and surrounding the branches upon strong footstalks, which arise from between the imbricated stipular squamæ: the flowers are large, yellow, and terminate the branches upon long peduncles, forming umbels: the calyx is persistent, divided into five teeth: the corolla is monopetalous, wheel-shaped, inclining, irregularly divided at the limb into five roundish spreading segments: the ten

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filaments are slender, spreading, nearly of the length of the corolla, and furnished with oval antheræ: the germen is pentagonal, indented, and supports a style, which is longer than the filaments, and terminated by an obtuse stigma: the capsule is egg-shaped, somewhat angular, and divided into five cells, which contain numerous small seeds.

This species of Rhododendron has not yet been introduced into Britain: it is a native of Siberia, affecting mountainous situations, and flowering in June and July.

This plant, and its medicinal effects, were first described in the year 1747, by Gmelin and Steller,[a] who mention it as frequently and successfully used in Siberia and other northern situations of which it is a native, for the cure of rheumatism, and other painful affections of the joints. Little attention however was paid to this remedy till the year 1779, when it was strongly recommended by Koelpin as an efficacious medicine not only in rheumatism and gout, but even in venereal cases;[b] and it is now very generally employed in chronic rheumatisms in various parts of Europe.[c] The leaves, which are the part directed for medicinal use, have a bitterish subastringent taste, and, as well as the bark and young branches, manifest a degree of acrimony. Taken in large doses

[a] It is said, "Venatores et Glaciei mariæ fossores ad Lenam habitantes—dum primis laborum suorum diebus facile lassantur et a perpetuo præruptorum montium adscensu genuum graves dolores patiuntur, lassitudini et dolori, decocto hujus foliorum, biduum triduumve continuato efficaciter mederi, nullum inter dormire et quasi inebriari, brevi vero ad solidiores labores sustinendos inde appissimos evadere." See *Gmelin. l. c.*

[b] *Praktische Bemerkungen über den Gebrauch der Sibirischen Schneerose in Gichtkrankheilen von D. A. B. Koeplin.* Berlin u Stettin. 1779.

[c] *Procopius a Demidof* of Moscow, employed a tincture of the leaves also in hæmorrhoidal complaints. *Neue nordische Beyträge, vol. 3. p. 399.* In Siberia it was given in a case of cancer of the breast, by *Butzow*, with great success. It is in common use in Germany. See Pallas Flor. Rossica. c, and J. H. Zahn *Diss. Medinaug. de Rhodod. Chrysantho*, 1783.

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they prove a narcotic poison, producing those symptoms which we have described as occasioned by many of the order Solanaceæ.[d]

As a powerful and active medicine this shrub may probably be found an important addition to the Materia Medica. Dr. Home, who tried it unsuccessfully in some cases of acute rheumatism, says, "it appears to be one of the most powerful sedatives which we have, as in most of the trials it made the pulse remarkably slow, and in one patient reduced it 38 beats."[e] And in other cases in which the Rhododendron has been used at Edinburgh, it has been productive of good effects, and accordingly it is now introduced into the Edinburgh Pharmacopœia.[f] The manner of using this plant by the Siberians, was by putting two drams of the dried leaves in an earthen pot, with about ten ounces of boiling water, keeping it near a boiling heat for a night, and this they took in the morning, and by repeating it three or four times generally effected a cure. It is said to occasion heat, thirst, a degree of delirium, and a peculiar sensation of the parts affected.

[d] These effects were produced on a goat, which, by eating ten leaves of the plant, was seized in a few minutes with tremblings, sopor, &c. See *Steller* in *Gmelin*, *l. c.*

It has also been remarked by Steller, that the effects of this plant have been found to vary according to its solum natale: thus, that produced in a certain place, has been found uniformly narcotic, that of another cathartic, and a sense of suffocation was the only symptom occasioned by a third. Vide *Gmelin*, *l. c.*

[e] *Clin. Exper. p.* 140. [f] See *Duncan's Edinb. Dispens. p.* 264.

Other medicinal plants of the order Bicornes, which have not been noticed in this work, are,

Systematic Names.	Officinal.	English.
Vaccinium Vitis Idæa	Vitis idæa	Red Bilberry
——Oxycoccos	Oxycoccos	Cranberry
——Myrtillus	Myrtillus	Blea-berry
Ledum palustre	Rosmarinius sylvestris	Wild Rosemary
Pyrola rotundifolia	Pyrola	Winter-green
Lawsonia inermis	Alkanna vera	Smooth Lawsonia
Tamarix gallica	Tamariscus	French Tamarisk

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ORD. XVIII. ASPERIFOLIÆ.

(From *asper* rough, and *folium* a leaf) rough or hairy leaved plants.

PULMONARIA OFFICINALIS. COMMON LUNGWORT

SYNONYMA. Pulmonaria, seu Pulmonaria maculosa. *Pharm. Geoff. M. M. Dale,* 135. *Lewis,* 525. *Edinb. New. Disp.* 261. *Bergius,* 83. *Murray, vol.* 2. *p.* 97. *Gerard, Emac.* 808. *Raii Syn.* 226. *Park. Parad.* 448. Symphytum maculosum sive pulmonaria latifolia. *Bauh. Pin.* 259. Pulmonaria officinalis. *Huds. Flor. Ang.* 81. *With. Bot. Arr.* 193. *Sowerby, Eng. Bot.* 118. *t.* 118. *Flor. Dan.* 482.

Pentandria Monogynia. *Lin. Gen. Plant.* 184.

Gen. Ch. *Cor.* infundibulif. fauce pervia, *Cal.* prismatico 5-gonus.

Sp. Ch. P. foliis radicalibus ovato-cordatis scabris.

THE root is perennial: the stems simple, erect, angular, rough, and frequently rise above a foot in height: the stem-leaves are somewhat ovate, or rather lanceolate, broad pointed, hairy, alternate, and on the upper side speckled with whitish maculæ: the radical leaves are broader, and more elongated towards the base: the flowers appear in terminal fasciculi, and are reddish and pur-

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ple: the calyx is a prism of five sides, rough, and divided at the mouth into five short pointed segments: the corolla is funnel-shaped, consisting of a cylindrical tube, open at the mouth, and a spreading limb, cut at the margin into five obtuse segments: the five filaments are very short, placed at the mouth of the tube, and furnished with simple yellow antheræ: the germen is quadrifid, supporting a tapering style of the length of the calyx, and crowned with a blunt notched stigma: the seeds are four, roundish, and lodged at the base of the calyx.

This plant is rarely found to grow wild in England, but is very commonly cultivated in gardens, where its leaves become broader, and approach more to a cordate shape, as appears by the detached leaves represented in the plate. The figure itself, however, exhibits a specimen of the spontaneous growth of this country.

The leaves, which are the part medicinally used, have no peculiar smell, but in their recent state manifest a slightly astringent and mucilaginous taste; hence it seems not wholly without foundation, that they have been supposed to be demulcent and pectoral.

They have been recommended in hemoptoës, tickling coughs, and catarrhal defluctions upon the lungs. The name Pulmonaria, however, seems to have arisen rather from the speckled appearance of these leaves, resembling that of the lungs, than from any intrinsic quality which experience discovered to be useful in pulmonary complaints.

LITHOSPERMUM OFFICINALE. COMMON GROMWELL.

SYNONYMA. Lithospermum, seu Milium Solis. *Pharm.* Vide *Geoffroy. Tract. de M. M. vol. 3. p. 742. Dale. Pharmacol.* 139. *Alston. M. M. vol. ii. p.* 361. *Lewis, M. M.* 399. *Edinb. New Dispens.* 223. *Murray, App. Med. vol. ii. p.* 98. *Ray, Synop.* 228. Lithospermum majus erectum. *Bauh. Pin.* 258. L.

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minus. *Gerard, Emac.* 609. L. vulgare minus. *Park. Theat* 432. L. officinale. *Hudson Flor. Ang.* 79. *With. Bot. Arr* 189. *Relh. Fl. Cant.* 76. *Sowerby. Eng. Bot.* 134. *t.* 134.

Pentandria Monogynia. *Lin. Gen. Plant.* 181.

Gen. Ch. *Cor.* infundib. fauce perforata, nuda. *Cal.* 5-partitus.

Sp. Ch. L. seminibus lævibus, corollis vix calycem superantibus foliis lanceolatis.

THE root is perennial, sending forth a long stalk, which is erect strong, round, branched, and beset with short bristly hairs: the leaves are alternate, sessile, lanceolate, entire, pointed, hairy beneath, above closely studded with minute cartilaginous tubercles which render them rough to the touch: the flowers are small, of a pale yellow colour, and are placed irregularly near the ends of the branches, which are recurved, but become straight on the maturation of the seeds: the calyx is divided into five segments, which are tapering, narrow, pointed, and permanent: the corolla is monopetalous, funnel-shaped, mouth naked and nearly closed: the tube is short, cylindrical; the limb is divided at the border into five blunt teeth: the filaments are short, and furnished with oblong antheræ: the germen is quadrifid: style filiform, of the length of the tube, terminated by a blunt cloven stigma: the seeds are four, but seldom more than two arrive at perfection, when they are egg-shaped, shining, extremely hard, and of a grey or yellowish hue.

It is found in various parts of England, affecting a dry gravelly soil. Its flowers appear in May and June.

This plant, according to Haller,* possesses narcotic powers; but its seeds only have been employed for medical purposes. These seeds, which we have described above, by their exquisitely polished surface, and stony hardness, (from which latter circumstance the name Lithospermum is taken,) have long excited the attention of

* *Hist. Stirp. Helv. n.* 595.

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naturalists. Pliny considered them as the greatest curiosity in the vegetable world: "Nec quicquam inter herbas majore quidem miraculo aspexi. Tantus est decor, velut aurificum arte alternis inter folia candicantibus margaritis: tam exquisita difficultas lapidis ex herba nascentis."[b]

Grew relates, that the hard crustaceous part effervesces with acids;[c] but the experiment has been since tried by others without effect: the internal substance of the seed is softer, and seems to consist of a farinaceous, sweet, and oily matter, becoming rancid on being long kept.

Formerly when medicine was under the dominion of superstition and absurd conceits, a notion prevailed, that nature pointed out remedies for different complaints, by bearing a certain resemblance and sign of the disease or part affected: hence the stony appearance of these seeds was deemed a certain indication of their efficacy in calculous and gravelly disorders. And though modern writers on the Materia Medica give no credit to the lithontriptic character of sem. milii solis, yet they generally ascribe to them a diuretic quality, a power of cleansing the urinary passages, and of obviating stranguary, especially when employed in the form of an emulsion;[d] but probably the free use of any bland diluent would answer these purposes equally well.

The absorbent virtue attributed to these seeds is wholly without foundation, being irreconcileable to the principles of chemistry.

[b] *Plin. lib.* 27. *c.* 11. [c] *Grew. Mixt. corp. p.* 22.

[d] Lotum movere hisce quidem credo, et in stranguria efficere aliquid posse, quum ob nucleum emulsivæ naturæ sit... *Murray, l. c.* See others also of this opinion.

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ANCHUSA OFFICINALIS. OFFICINAL BUGLOSS, Or ALKANET.

SYNONYMA. Buglossum. *Pharm. Park. Parad.* 249. *Geoff. v. iii.* 226. *Dale.* 136. *Alston. vol. ii.* 91. *Lewis.* 167. *Bergius.* 79. *Murray. vol.* 2. 98. *New Edinb. Dispens.* 152. Buglossum angustifolium majus. *Bauh. Pin.* 256. Buglossa vulgaris. *Ger. Emac.* 798. *Flor. Dan. t.* 572.

Pentandria Monogynia. *Lin. Gen. Plant.* 182.

Gen. Ch. *Cor.* infundibulif. fauce clausa fornicibus. *Sem.* basi insculpta.

Sp. Ch. A. foliis lanceolatis strigosis, spicis secundis imbricatis, calycibus quinquepartitis. *Hort. Kew.*

ROOT perennial, large, tapering. Stem about two feet high, erect, angular, strong, rough, hairy, branched towards the top. Leaves alternate, narrow, lanceolate, pointed, rough, hairy, edges eroded, and somewhat undulated. Flowers purple, produced in corymbi, both lateral and terminal. Calyx rough, cut into five acute erect segments. Corolla funnel-shaped, tube long, cylindrical: limb divided into five obtuse segments: mouth of the tube closed by five nectarious scales. Filaments five, short, placed in the upper part of the tube, and furnished with simple brownish antheræ. Germen quadrifid: style nearly as long as the tube, tapering, and terminated by an emarginated stigma. Seeds four, hollowed out at the base. The flowers appear in succession from June till October.

It is a native of the Continent of Europe, but not indigenous to this Island. Mr. P. Miller cultivated it here in 1748, and we now find it in most gardens where variety of herbaceous ornamental plants is an object of attention.

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The root, leaves, and flowers of this plant have all been admitted of the Materia Medica, though it would seem without any just claim to that distinction. To the taste they discover no other quality than that of being sweetish and glutinous, excepting only a slight bitterness of the flowers.

Bergius ascribes an aperient and refrigerant virtue to this plant, and states its use to be in "ardor viscerum," and also in hypochondriasis. However, as all the common oloraceous plants are cooling and laxative, these properties are no peculiar recommendation of Bugloss.

The utility of this herb in melancholic and hypochondriacal disorders has been asserted ever since the time of Dioscorides;* and when it is considered that wine was generally the vehicle in which the plant was administered, we are not surprised that it so long maintained the character of exhilerating the spirits. In this way likewise may be explained why the flowers of Bugloss have been reckoned one of the *four cordial flowers.*

* ——— "quo vino inditum animi voluptatis augere, hilaritatemque offerre creditur," &c. *Dios. l. iv. c.* 128.

SYMPHYTUM OFFICINALE. COMMON COMFREY.

SYNONYMA. *Consolida. Pharm. Geoff. vol. iii.* 353. *Dale.* 138. *Alston. vol. i.* 525. *Lewis.* 248. *Edin. New Disp.* 176. *Bergius.* 85. *Murray. vol. ii.* 92. *Cullen. v. ii.* 413. Symphytum. *Hall. Stirp. Helv. No.* 600. *Scop. Flor. Carn. No.* 195. Symphytum Consolida major. *Bauh. Pin.* 259. *Gerard. Emac.* 806. Symphytum majus vulgare. *Park. Theat.* 523. *Raii. Synop.* 230. S. officinale. *Huds. Ang. p.* 81. *With. Bot. Arr.* 195. *Curt. Flor. Lond. Flor. Dan.* 664.

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Pentandria Monogynia. *Lin. Gen. Plant.* 185.

Gen. Ch. *Cor.* limbus tubulato-ventricosus: fauce clausa radiis subulatis.

Sp. Ch. S. foliis ovato-lanceolatis decurrentibus.

ROOT perennial, large, branched, on the outside blackish, within whitish. Stalk about two feet high, erect, branched, somewhat angular, covered with short rigid hairs. Leaves large, alternate, those below standing on footstalks; those above sessile, decurrent, ovate, pointed, entire, rough, and fringed with short hairs. Flowers tubular, of a yellowish white, placed in spikes, which turn inwards in a spiral manner. Calyx divided into five segments, which are rough, erect, and pointed. Corolla funnel-shaped, consisting of a short thick tube, and a limb slightly cut at the edges into five short obtuse reflexed segments; the mouth of the tube closed by five narrow pointed nectarious teeth. Filaments five, short, terminated by yellow erect bifid antheræ. Germen divided into four parts. Style tapering, longer than the corolla, and furnished with a small blunt stigma. Seeds four, angular, blackish, shining, and lodged in the bottom of the calyx. It is a common British plant about ditches, flowering from June till September.

A supposed vulnerary efficacy, for which this plant was formerly in great repute, and to which it seems to owe its name, will now be considered as nothing in its recommendation.

However, the root of Comfrey, though rarely used, promises all the advantages to be derived from that of marshmallow; for according to Lewis "the dried root, boiled in water, renders a large proportion of the fluid slimy; and the decoctions inspissated, yield a strong flavourless mucilage, similar to that obtained from althæa, but somewhat stronger-bodied, or more tenacious, and in somewhat larger quantity, amounting to about three-fourths the weight of the Comfrey." Hence it it inferred, that the consolida is rather superior to the althæa in the several intentions for which that root

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is employed; the mucilaginous matter being in both roots the only medicinal principle. Therefore, as the root of this plant is easily obtained, it may be conveniently substituted for that of althæa in all the compositions in which the latter is officinally directed, or extemporaneously, for the general purposes of an emollient and demulcent. This opinion seems also to have the authority of Dr. Cullen, who says, "while mucilaginous matters are retained in our lists, I do not perceive why both the British Colleges have entirely omitted the Symphytum. It may be of service as alleged in diarrhoeas and dysenteries."

CYNOGLOSSUM OFFICINALE. COMMON HOUND'S-TONGUE.

SYNONYMA. Cynoglossum. *Pharm. Geoff. v.* 3. 394. *Dale.* 135. *Alston. v.* 1. 428. *Lewis.* 268. *Ed. New Dispens.* 181. *Bergius.* 82. *Murray. V.* 2. 102. *Cullen. v. ii.* 413. Cynoglossum majus vulgare. *Bauh. Pin.* 257. *Ger. Emac.* 804. *Park. Theat.* 511. *Raii. Hist.* 489. *Synop.* 226. Cynoglossum foliis ellipticis lanceolatis, sericeis, caule folioso. *Hall. Hist. Stirp. Helv. n.* 587. C. officinale. *Scop. Flor. Carn.* 191. *Hudson. Fl. Ang.* 80. *With. Bot. Arr.* 192. *Curt. Flor. Lond.*

Pentandria Monogynia. *Lin. Gen. Pl.* 183.

Gen. Ch. *Cor.* infundibuliformis, fauce clausa fornicibus. *Semina* depressa, interiore tantum latere stylo affixa.

Sp. Ch. C. staminibus corolla brevioribus, foliis lato-lanceolatis basi attenuatis tormentosis sessilibus, laciniis calycinis oblongis. *Hort. Kew.*

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ROOT perennial, long, tapering, blackish on the outside, whitish within. Stalk two or three feet in height, erect, grooved, villous, leafy, branched. Radical leaves large, on long footstalks, exceeding a foot in length, ovate, pointed, covered with a short shining greyish down; cauline leaves sessile, numerous, lanceolate, broad towards the base. Flowers of a dull red, changing to a bluish colour, and placed on slender peduncles, in spikes. Segments of the calyx five, deeply divided. Corolla monopetalous, funnel-shaped: tube cylindrical, thick, half the length of the calyx: limb concave, cut into five roundish segments: nectary consisting of five purple scales, closing together, and inserted at the mouth of the tube. Filaments five, very short. Antheræ oblong, green. Germens four, smooth, of a yellowish green colour, supporting a tapering style, terminated by a blunt emarginated stigma. Capsules four, roundish, rough. Seeds solitary, ovate, gibbous, pointed, smooth.

It is common in this country, and usually found in waste grounds, or sides of roads, and flowers in June and July.

Hounds-tongue, thus named from the shape of the leaves, like most of the other plants of this natural order, is succulent, and somewhat mucilaginous, especially its root, which, for medicinal purposes, has been generally preferred to the leaves. The taste of the plant is bitterish, and its smell is disagreeable, resembling that of mice. Cynoglossum is reported to be deleterious, and the dingy lurid appearance of its leaves, peculiar to poisonous herbs of the narcotic kind, seems to favour the opinion; nor are facts wanting to confirm it. A relation is given of a whole family at Oxford, who, by mistake, ate the boiled leaves of this plant for those of comfrey: soon afterwards they were all seized with vomiting, stupor, sleepiness, &c. which symptoms continued alternately for almost forty hours, and with such severity, that one person died.* But

* Vide Morrison *Hist. Oxon. iii. p.* 450. Haller also, (*Hist. Stirp. Helv. n.* 587.) cites a similar instance, mentioned by Dr. Blair; but the plant used does not appear to have been the cynoglossum. See Blair's *Miscellaneous Observations, p.* 55.

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what degree of narcotic power Hounds-tongue possesses, or to what quantity it may be safely employed as a medicine, experience has not yet determined. The pil. de cynoglosso of the Wirtemburg and Danish Pharmacopœias contain so small a proportion of this root, that their common use cannot be considered as affording sufficient proof of its innocence. Ray however informs us, that Dr. Hulce frequently prescribed a decoction of the roots of Hounds-tongue for internal use, and at the same time applied the roots as a poultice to scrophulous tumours with safety and advantage.[b] Hence it appears that this part of the plant at least cannot be considered as an active poison.

The leaves and roots of Cynoglossum have been employed with the same intention, and principally with a view to their mucilaginous, astringent, and sedative qualities, as in coughs, hæmoptysis, diarrhœas, dysenteries, &c.[c] Their external use is also recommended in ill-conditioned ulcers and tumours.

[b] Vide *l. c.*

[c] Vide Schreckius *Diss de Cynoglosso.*

BORAGO OFFICINALIS. COMMON BORAGE.

SYNONYMA. Borago. *Pharm. Geoff. v.* 3. 201. *Dale.* 136. *Alston. v. ii.* 91. *Lewis.* 158. *Ed. New Dispens.* 150. *Bergius.* 86. *Murray. v. ii.* 95. Buglossum latifolium, Borrago, *Bauh. Pin.* 256. Borrago hortensis. *Gerard. Emac.* 797. Borago floribus cæruleis & albis. *Rait. Hist.* 493. *Synop.* 228. B. officinalis. *Hudson. Flor. Ang.* 82. *With. Bot. Arr.* 196. *Ic. Hort. Roman. T.* 2. *t.* 20. 21. *Eng. Bot.* 36.

Pentandria Monogynia. *Lin. Gen. Pl.* 188.

Gen. Ch. *Cor.* rotata: fauce radiis clausa.

Sp. Ch. B. foliis omnibus alternis, calycibus patentibus.

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ROOT divided, fibrous, and in Britain scarcely more than biennial. Stalks branched, round, succulent, hairy, erect, rising to the height of two feet. Leaves ovate, alternate, undulated, hairy, ciliated, irregularly defined at the edges, and at their bases embracing the stem. Flowers large, blue, placed in loose panicles, upon rough peduncles turning downwards. Calyx divided into five narrow ovate rough permanent segments. Corolla monopetalous, wheel-shaped; tube short: limb deeply cut into five spreading pointed divisions, which are longer than the calyx; faux or mouth of the tube closed by five prominences, which are blunt, and notched at the end. Filaments five, tapering, converging: antheræ oblong, approaching, and fixed to the middle and inner side of the filaments. Germens four: style filiform, longer than the stamina, and furnished with a simple stigma: the calyx supplies the office of capsule, containing the seeds, which are four, of an irregular roundish shape.

The Borage, although commonly found growing about rubbish, and in waste grounds, is however not originally a native of this Island, but has now been long enough naturalized here to be considered as a British plant. Its flowers, which appear from June till September, are of a beautiful blue colour: hence this plant, in many gardens, is cultivated for ornament, as well as for its popular use as an ingredient in that grateful summer-beverage, known by the name of Cool Tankard.

This plant appears to be the buglossum of the ancients;* and its reputed medicinal character seems also to correspond most exactly with that of our common bugloss, or anchusa officinalis L. The flowers of both have been termed cordial, and hence, formerly, much recommended in melancholia, and other affections of the

* The following lines therefore apply to this plant:

Vinum potatum quo sit macerata buglossa,
Mærorem cerebri dicunt auferre periti.
Fertur convivas decoctio reddere lætos.—*Schol. Salern.* c. 21.

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nervous system;[b] and as these flowers were found to possess neither warmth, pungency, nor fragrance, their cordial efficacy has been ascribed to a saline quality, which, by abating inordinate heat, was said to be peculiarly grateful and refreshing. But though the herbaceous substance of Borage has been discovered to contain a saline matter, there is no evidence of its existence in the flowers; so that the advantages supposed to be derived by a vinous infusion of these, like those of bugloss, can only be imputed to the menstruum.

The leaves of Borage manifest nothing remarkable either to the smell or to the taste; but they abound with a juice, which, in its expressed state, is said to be saltish, and which, on being boiled a sufficient time, forms crystals of nitre:[c] similar crystals have also been obtained from a decoction of the leaves;[d] and hence it may be inferred, that this plant has a peculiar claim to the possession of refrigerating and aperient virtues. Dr. Withering observes, that the young and tender leaves are good in sallads, or as a pot-herb.

Cordia Myxa, whose fruit is of the drupaceous or plumb kind, and was formerly known in the shops by the name *sebesten,* is the only remaining medicinal plant placed by botanists in this natural order which we have not figured. The leaves of the Myxa, however, unlike those of the other species of Cordia, are smooth and naked; it therefore cannot properly belong to the asperifoliæ.

[b] Hence the trite remark, "Borago, gaudia semper ago."

[c] Marcgraf *in Mem. de L'Acad. des Sc. de Berlin.* 1747. *p.* 79.

[d] Boulduc *Mem. de L'Acad. des Sc. de Paris,* 1734. *p.* 101.

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ANCHUSA TINCTORIA. DIERS BUGLOSS, or ALKANET.

SYNONYMA. Anchusa. *Pharm. Edinb.* Anchusa puniceis floribus. *Bauh. Pin. p.* 255. Anchusa Monspeliana. *J. Bauh. Hist. vol. iii. p.* 583. *Raii Hist. p.* 496. Anchusa Alcibiadion. *Gerard. Emac. p.* 800. Anchusa minor purpurea. *Park. Theat. p.* 517. Alkanna. *Pharm. Suic. Wert. &c.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 182.

Ess. Gen. Ch. *Cor.* infundibulif. fauce clausa fornicibus. *Sem.* basi insculpta.

Sp. Ch. A. tomentosa, fol. lanceolatis obtusis, stamin. corolla brevioribus.

THE root is perennial, long, round, fibrous, and externally of a dark purplish red colour: the stalk is thick, round, rough, hairy, branched, and rises about two feet in height: the leaves are long, lance-shaped, obtuse, hairy, and without footstalks: the flowers vary from a purplish to reddish colour, and terminate the branches in close clusters: the calyx is divided into five oblong erect rough persistent segments: the corolla is monopetalous, and funnel-shaped, consisting of a cylindrical tube, equal in length to the calyx, divided at the limb into five blunt teeth, and closed at the faux or centre by five small prominent scaly leafits: the five filaments are short, included in the tube of the corolla, and furnished with simple antheræ: the germens are four: the style is filiform, about the length of the stamina, and supplied with an obtuse notched stigma: the seeds are four, of an irregular shape, and lodged within the calyx. It flowers from June till October.

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This species of Anchusa* is a native of Montpellier, and was cultivated in Britain by Mr. James Sutherland, in the year 1683.[a] It is propagated by our gardeners for the beauty of its flowers, but in this climate its roots never acquire that deep colour on which its utility depends. The red cortical part of the root of this plant, as imported here from the southern parts of Europe, when separated from the interior white part, imparts a fine deep red to oils, wax, and all unctuous substances, and to rectified spirit of wine; on this account the Edinburgh College introduces it into their catalogue of the Materia Medica. "To water this root gives only a dull brownish hue. The spirituous tincture, on being inspissated to the consistence of an extract, changes its fine red to a dark brown. In these general properties the deep and pale roots agree one with another, and differ from all the rest of the red drugs we know of: it is not therefore probable, that the deep colour of the foreign roots is owing, as some have supposed, to the introduction of an extraneous tincture."[b] Formerly the Alkanet root was recommended in several diseases, particularly as an astringent, and it manifests this quality in some degree to the taste;[c] but it is now used in no other way than for colouring oils,[d] ointments, and plasters, which receive a fine deep red from one fortieth their weight of the root.

* Anchusa ab ἀγχω strangulo, suffico quod serpentes strangulet necetque. Hac vi pollere est auctor Nicander, Dioscorides, Plinius, Galenus, &c. *Bod. in Theoph.* p. 835.

[a] Sutherland. *Hort. Edin.* 21. *no.* 7. See Aiton's Hort. Kew.

[b] Lewis *Mat. Med. p.* 56.

[c] Alston could not discover this quality in the Anchusa. *M. M. vol. i. p.* 365.

[d] It is also used with oil by the cabinet makers to stain mahogany and other woods.

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ORD. XIX. VERTICILLATÆ.

(From *vertex*, a whirlpool.)

Herbaceous plants producing their flowers in whirls or whorls, encircling the upper part of the stem.

GLECOMA HEDERACEA. GROUND-IVY, or GILL.

SYNONYMA. Hedera terrestris. *Pharm. Edin. Gerard.* 856. *Raii. Hist.* vol. 1. 567. *Synop.* 243. Hedera terrestris vulgaris. *Bauh. Pin.* 306. *Park. Theat.* 676. Chamæcissus sive Hedera terrestris. *J. Bauh.* vol. 3. 855. Chamæclema caule procumbente radicato, foliis reniformibus, rotunde crenatis. *Hall. Stirp. Helv.* No. 245. Glecoma hederacea. *With. Bot. Arrang.* 603. *Relhan Flor. Cant.* 225. *Curtis Flor. Lond. Flor. Dan.* t. 789.

Class Didynamia. *Ord.* Gymnospermia. *L. Gen. Plant.* 714.

Ess. Gen. Ch. Antherarum singulum par in formam crucis connivens. *Calyx* 5-fidus.

Sp. Ch. G. foliis reniformibus crenatis.

THIS plant has a small, perennial, creeping, fibrous root, which puts forth stalks from six inches to a foot and a half in height; these are square, procumbent, and at the knots or joints woolly; the leaves are of a roundish kidney-shape, scolloped, hairy, and stand in opposite pairs upon channelled footstalks; the flowers

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grow in verticilla, or whorls of three, four, or five together, on short peduncles, placed about the footstalks of the leaves; the calyx is tubular, permanent, striated, rough, and divided into five unequal pointed segments; the flower is blue, monopetalous, bilabiated, with a slender compressed tube; the upper lip is cleft, erect, blunt, the lower lip is expanded, large, divided into three lobes, of which the middle one is the largest, and is notched at the end; the bracteæ are small, tapering, and grow from the peduncles; the filaments are four, two long and two short, covered by the upper lip, and the antheræ of each pair approach so as to form a cross; the style is filiform, the stigma is bifid, and pointed; the seeds are four, oval, naked, and lodged in the calyx. It is a well known plant, growing commonly under hedges, and flowering in April.

Ground-ivy has a peculiar strong smell,[a] and its taste is bitterish, and somewhat aromatic. It is one of those plants which was formerly in considerable estimation, and supposed to possess great medicinal powers, but which later experience has been unable to discover; in proof of this, its name is omitted in the catalogue of the Materia Medica by the London College. The qualities of this plant have been described by different authors, as pectoral, detergent, aperient, diuretic, vulnerary, corroborant, errhine, &c.—and it has been variously recommended for the cure of those diseases to which these powers seemed most adapted, but chiefly in pulmonary[b] and nephritic[c] complaints. In obstinate coughs, it is a

[a] Dr. Withering has observed, that the leaves are "beset underneath with hollow dots, in which are glands secreting an essential oil, and above with little eminences, but which do not secrete any odoriferous oil; for this surface being rubbed gives out no peculiar scent, whereas the under surface affords a pleasant reviving scent." l. c.

[b] Willis, Pharm. rat. sect. 1. c. 6. Morton, Phthisiologia, lib. 3. Cap. 5. Sauvages Nosol. Tom. 3. P. 2. cap de phthisi. Ettmuller, Oper. T. p. 639. Scardona Aphoris. lib. 2. p. 69. River. Prax. P. 1. p. 397. See also Ray, Gerard, Miller, and others.

[c] Paulli Quadrip. bot. p. 74. Sennertus. Oper. T. 3. p. 576. Plater. Prax. Tom. 2. p. 499. Reusn. Observ. Med. p. 90. apud Welch. Mead Mon. et præc. med. p. 97.

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favourite remedy with the poor, who probably experience its good effects by still persevering in its use. Ray, Mead, and some others, speak of its being usefully joined with fermenting ale;* but Dr. Cullen observes, "it appears to me frivolous. In short, in many cases where I have seen it employed, I have had no evidence either of its diuretic or of its pectoral effects. In common with many other of the verticillatæ, it may be employed as an errhine, and in that way cure a head-ach,[d] but no otherways by any specific quality." It is usually taken in the way of infusion, or drunk as tea.

* From the general use of Ground-ivy, mixed with ale, &c. it acquired the name of Ale-hoof and Tun-hoof.

[d] Ray gives a remarkable instance of its efficacy in this way, in the case of Mr. Oldacres, and says, "Succus hujus plantæ naribus attractus cephalalgiam etiam vehementissimam & inveteratam non lenit tantùm sed & penitus aufert—Medicamentum hoc non satis potest laudari, si res ex usu æstimarentur, auro æquiparandum." l. c.

HYSSOPUS OFFICINALIS. COMMON HYSSOP.

SYNONYMA. Hyssopus. *Pharm. Edinb.* Hyssopus Officinarum cærulea sive spicata. *Bauh. Pin. p.* 217. Hyssopus vulgaris. *Park. Theat.* Hyssopus Arabum. *Gerard. Emac. p.* 576. Hyssopus vulgaris spicatus angustifolius. *J. Bauh. Hist. iii. p.* 274. *Raii Hist. p.* 516. Hyssopus foliis linearibus punctatis, verticillis in spica continuatis. *Hal. Stirp. Helv. n.* 249. *Jacquin Flor. Aust. t.* 254.

Varietates sunt, α foliis glabris, floribus cæruleis: β foliis glabris, floribus rubris: γ foliis glabris, floribus albis: δ foliis pilosis. *Aiton's Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant,* 709.

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Ess. Gen. Ch. *Corollæ* labium inferius lacinula intermedia crenata. *Stamina* recta, distantia.

Sp. Ch. H. spicis secundis, foliis lanceolatis.

THE root is perennial, knobbed, woody, and furnished with many long fibres: the stalk is shrubby, somewhat square, upright, much branched, and rises about two feet in height: the leaves are long, narrow, elliptical, entire, obtusely pointed, of a deep green colour, and stand in pairs without footstalks: the flowers are produced chiefly on one side, in short verticillated spikes, terminating the branches, and are of a blue colour: the calyx is tubular, striated, and divided at the extremity into five pointed segments: the corolla is monopetalous, and consists of a narrow tube, which divides at the limb into two expanded lips; the uppermost is short, roundish, and notched at the apex; the lowermost is separated into three segments, of which the undermost is very large, and inversely heart-shaped: the filaments are four, two long, and two short, and crowned with simple antheræ: the style is slender, and divided at the top into a double stigma: the germen is separated into four parts or seeds, which are lodged at the bottom of the calyx. It is a native of Siberia, and the mountainous parts of Austria, and flowers from June till September.

The Hyssop, mentioned in the Old Testament, is not supposed to be the plant here described, which is neither the *Esof* of the Hebrews, nor the ὑσσωπος of the Greeks.[a] It was first cultivated in England by Gerard,* in 1596, and is now extremely common in our gardens. The leaves of Hyssop have an aromatic smell, and a bitterish moderately warm taste. They give out their active

[a] Vide Le Clerc's Hist. p. 626. cited by Alston, who says, I shall only take notice that καλαμος in St. Matthew's Gospel, chap. xxvii. ver. 48. is ὑσσωπος in St. John's, chap. xix. ver. 29. Probably it is the *Zufe* or *cyfe*, i. e. Hyssop of the Arabians. Lect. on the M. M. v. ii. p. 152.

* Vide *Hort. Kew.*

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matter both to water and to rectified spirit; to the last most perfectly. On inspissating the spirituous tincture, very little of the flavour of the herb exhales or distills with the menstruum: the remaining extract is bitterish, and very warm, and discovers a penetrating pungency, somewhat like that of camphor. Water, distilled from the fresh herb, is found pretty strongly impregnated with its flavour: an essential oil separates and rises to the surface, which is very pungent, and in smell exactly resembles the Hyssop."[b]

Dr. Cullen classes this and all the verticillated plants as stimulants, and this quality is to be ascribed to the quantity of essential oil which they contain; the Hyssop therefore may be esteemed aromatic and stimulant; and with a view to these effects, Bergius recommends it as an emmenagogue and antihysteric;[c] but it is chiefly employed as a pectoral, and has been long thought an useful medicine in humeral asthmas, coughs, and catarrhal affections; for this purpose, an infusion of the leaves, sweetened with honey or sugar, and drank as tea, is recommended by Lewis. The external application of Hyssop is said to be particularly efficacious in the way of fomentation and poultice, in contusions, and for removing the blackness occasioned by the extravassated fluids.[d]

[b] Lewis M. M. p. 348. [c] M. M. p. 512.

[d] All the old writers praise it highly in this respect: Nec excluduntur sugillationes oculorum quibus herba intra sacculum aqua vel vino decocta clausis palpebris subvenit. *Riolan.* and *Sim. Pauli.*

It is also recommended as a vermifuge by Rosenstein. *Barns jukd. p.* 358.

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LAVANDULA SPICA. COMMON LAVENDER.

SYNONYMA. Lavendula. *Pharm. Lond. & Edinb.* Lavendula angustifolia flore cæruleo. *Bauh. Pin. p.* 216. Lavendula minor sive spica. *Gerard. Emac. p.* 584. *Raii. Hist. p.* 513. *Park. Theat. p.* 73. Pseudo-nardus quæ Lavendula vulgo. *J. Bauh. Hist. vol. iii. p.* 282. Lavandula foliis lineribus, spicis nudis. *Hal. Stirp. Helv. n.* 232.

Varietates sunt.

α Lavandula angustifolia flore cæruleo. *Bauh. Pin. p.* 216.
Narrow-leaved blue flowered common Lavender.

β Lavandula angustifolia flore albo. *Bauh. l. c.*
Narrow-leaved white flowered common Lavender.

γ Lavandula latifolia. *Bauh. l. c.*
Broad-leaved common Lavender. Vide *Aiton. Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 711.

Ess. Gen. Ch. *Calyx* ovatus, subdentatus, bractea suffultus. *Corolla* resupinata. *Stamina* intra tubum.

Sp. Ch. L. foliis sessilibus lanceolato-linearibus margine revolutis, spica interrupta nuda.

THE root is perennial, thick, fibrous, and woody: the stalk is shrubby, much branched, and often rises to the height of five or six feet: the bark of the younger shoots is of a pale-green colour, but of the old woody part of the stem rough and brown: the leaves are numerous, long, narrow, entire, without footstalks, of a whitish green colour: the flowers are produced in terminal spikes upon the young shoots, and are of a bright blue colour: the corolla consists

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of a long cylindrical tube, divided at the mouth into two lips, the uppermost of which is largest, and cut into two segments; the lower expands downwards, and separates into three: the filaments are four, two long, and two short, inclosed within the tubular part of the corolla, and support small simple antheræ: in the place of a germen we find four naked seeds, from the centre of which proceeds the style, which is slender, and furnished with a bilobated stigma. It is a native of the south of Europe, and flowers from July till September. This plant was formerly considered as a species of Nardus, and appears to be the Pseudo-nardus of Matthiolus and Pliny.

Lavender grows spontaneously in many of the southern parts of Europe; it appears from Turner to have been cultivated in England previous to the year 1568,[a] and on account of the fragrance of its flowers, it is now so commonly cultivated, that we can scarcely enter a garden in which this plant is not to be found. The fragrant smell of the flowers is well known, and to most people agreeable; to the taste they are bitterish, warm, and somewhat pungent; the leaves are weaker and less grateful. "Water extracts by infusion nearly all the virtue both of the leaves and flowers. In distillation with water the leaves yield a very small portion of essential oil; the flowers a much larger, amounting in their perfectly mature state[b] to about one ounce from sixty. The oil is of a bright yellow colour, of a very pungent taste, and possesses, if carefully distilled, the fragrance of the Lavender in perfection.[c] Rectified spirit ex-

[a] Vide Aiton's *Hort. Kew.*

[b] In order to obtain the largest quantity of essential oil from these and most other flowers of this kind, they should be allowed to grow to their full maturity, and be dried for some time.

[c] Hence it is frequently employed as a perfume. This oil has been used for stimulating paralytic limbs, and for other external purposes. We are also told that it effectually destroys cutaneous insects, and that if soft spongy paper be dipped in this oil, and applied to the parts, it immediately kills the *pediculi inguinales*.—This oil, distilled from the broad-leaved Lavender, and mixed with three-fourths of rectified spirit, or oil of turpentine, was the Oleum spicæ, formerly high celebrated as an application to indolent tumours, old sprains, diseased joints, &c.

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tracts the virtue of Lavender more completely than water. The spirit elevates also in distillation a considerable part of the odoriferous matter of the leaves, and greatest part of that of the flowers; leaving in the inspissated extracts a moderate pungency and bitterness, with very little smell."[d]

Lavender has been an officinal plant for a considerable time, though we have no certain accounts of it given by the ancients: its medicinal virtue resides in the essential oil, which is supposed to be a gentle corroberant and stimulant of the aromatic kind,[e] and is recommended in nervous debilities and various affections proceeding from a want of energy in the animal functions. According to Dr. Cullen, it is, "whether externally applied or given internally, "a powerful stimulant to the nervous system; and among the "others of this order, named Cephalics, the Lavender has a very "good and perhaps the best title to it." And he further says, "it "appears to me probable, that it will seldom go further than ex- "citing the energy of the brain to a fuller impulse of the nervous "power into the nerves of the animal functions, and seldom into "those of the vital. It may however be with great propriety, "that Professor Murray has dissuaded its use where there is any "danger from a stimulus applied to the sanguiferous system. It is "however still probable, that Lavender commonly stimulates the "nervous system only, and therefore may be more safe in palsy "than the warmer aromatics, especially if the Lavender be not "given in a spirituous menstruum, or along with heating aromatics, "which however is commonly done in the case of the spiritus "lavendulæ compositus."[f] The officinal preparations of Lavender, are the essential oil, a simple spirit, and a compound tincture.

[d] Lewis's Mat. Med. p. 371.

[e] Bergius says, *Virtus:* nervina, resolvens, tonica, emmenagoga. *Usus:* externus. M. M. p. 513.

[f] Mat. Med. vol. ii. p. 148.

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TEUCRIUM MARUM. MARUM GERMANDER, Or, SYRIAN HERB MASTIC

SYNONYMA. Marum Syriacum. *Pharm. Lond.* Maru Cortusi. *J. Bauh. Hist. v. iii. p.* 242. Marjorana Syriaca Cretica. *Bauh. Pin. p.* 224. Marum Syriacum vel Creticu *Park Theat. p.* 13. *Raii Hist. p.* 527. Chamædrys inca maritima frutescens, foliis lanceolatis. *Tourn. Inst. p.* 2 Tragoriganum Thymi latioribus foliis, subtus incanis; flore mag suave-rubente. *Pluk. Alm. p.* 374. Thymum Creticum, & *Breyn Prod. ii. p.* 99. C. Schreberi *verticill. unilab. n.* 28. Linn. *Diss. de Maro resp.* Dahlgren. p. 7.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 706.

Ess. Gen. Ch. *Corollæ* labium superius (nullum) ultra basin 2-pa titum, divaricatum ubi stamina.

Sp. Ch. T. foliis integerrimis ovatis acutis petiolatis, subtus tome tosis, flor. racemosis secundis.

THE root is perennial, long, ligneous, and divides into ma fibrous branches: the stalks are numerous, slender, shrubby, wooll somewhat branched, and rise above a foot in height: the leaves a oblong, pointed, entire, and near the bottom obscurely lobe the upper pagina is of a pale green colour; the under, white an downy; they are placed in pairs upon slender footstalks, whi become gradually elongated towards the lower part of the stem the flowers are produced in spikes, and all stand on the same si in pairs, upon short peduncles: the corolla consists of a sho curved cylindrical tube, which divides at the limb into two lips the upper lip is short, erect, and divided to the base, by which seems lost in the upper lip, which is long, of a pale purple colou

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and separated into six lobes, of these the outermost is the largest: the calyx is tubular, whitish, woolly, and cut into five short pointed segments: the filaments are two long and two short, slender, white, and furnished with simple antheræ: the germen is quadrifid, and supports a slender style, with a bifid stigma: the seeds are four, of a brown colour, and lodged in the calyx, which serves the purpose of a capsule.

This little shrub flowers from July till September. It is a native of Spain, and is said to grow plentifully also in Greece, Ægypt, Crete, and Syria.

Whether this plant was known to the ancients or not, does not appear from the descriptions of Theophrastus and Dioscorides.—Cortusus [a] discovered that cats are remarkably fond of Marum;* and from this circumstance we are enabled with certainty to trace back its history to his time, for ever since it has been known by the name of Cat-thyme: there occurs however considerable difficulty in ascertaining its synonyma; and probably some of those to which we have referred, are not sufficiently identified. It was first cultivated in England by Parkinson [b] in 1640, and is now to be found in many of our gardens.

The leaves and younger branches of Marum, when recent, on being rubbed between the fingers, emit a volatile aromatic [c] smell, which readily excites sneezing, but to the taste they are bitterish, accompanied with a sensation of heat and acrimony. Lewis observes, that "the Marum loses but little of its pungency on being dried, and in this respect it differs remarkably from many other acrid herbs, as those called antiscorbutic. It gives out its active matter

[a] See Jac. Antonii Cortusi Catalogus Horti Patavini, *anno* 1591, & J. Bauh. l. c.

* Cats are also known to have a similar fondness for the Nepeta Cataria, and the roots of Valeriana off.

[b] Vide Aiton's *Hort. Kew.*

[c] Murray says,—Ut sal volatile olfactum grato suo et camphoraceo fere aromate nares vellicant, in sternutationem usque, et per momentum temporis animum eximie erigunt. App. Med. vol. 2. p. 108.

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partially to water, and completely to rectified spirit.—Distilled with the former, it yields a highly pungent, subtile, volatile essential oil, similar to that of scurvy grass, but stronger, and of less perishable pungency. Rectified spirit carries off likewise, in the inspissation of the spirituous tincture, a considerable share of the smell and pungency of the Marum, but leaves much the greatest part concentrated in the extract; which, on being tasted, fills the mouth with a durable, penetrating, glowing warmth."[d]

Judging from the sensible qualities of this plant, it may be supposed to possess very active powers, and on this consideration it is strongly recommended by Wedelius[e] as an important remedy in many diseases requiring medicines of a stimulant, aromatic, and deobstruent quality; and his opinion seems in some measure to have been since verified by actual experience of its efficacy, as appears from the instances of its successful employment by Linnæus,[f] Rosenstein,[g] and Bergius.[h] The last mentioned writer says of it, *Virtus:* nervina, tonica, resolvens, emmenagoga, diuretica, errhina. *Usus:* Cachexia, Hysteria, Debilitas nervorum.

At present, however, Marum is here chiefly used as an errhine, and is an ingredient in the pulvis asari compositus of the London Pharmacopœia. The dose of the powdered leaves is from a scruple to half a dram, which Murray advises to be given in wine.

[d] Lewis Mat. Med. p. 412.

[e] *Diss. de Maro resp.* Hermanno 1703.—Its cephalic efficacy is highly commended by Hermann *(Cynos. Mat. Med. tom. 2. p. 349.)* and Boerhaave *(Hist. Plant. hort. L. B. p. 262.)*

[f] Of these we may mention Menstrua suppressa, Apoplexy, Asthma, and various other pulmonary affections. Vide l. c.

[g] Murray says, "Litteris vero ad me datis, vir. illustris perscripsit, se eadem medela b. Rosensteinio, dirissima et pertinacissima tussi cum difficillima respiratione in ultimo morbo conflictato, levamen attulisse exoptatissimum." l. c.

[h] He mentions the case of a lady who received a blow upon the head by falling from a carriage, which brought on a species of apoplexy, and was cured by this plant, after several other means had been tried ineffectually. M. M. p. 504.

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TEUCRIUM SCORDIUM. WATER GERMANDER.

SYNONYMA. Scordium. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 661. *Bauh. Pin.. p.* 274. *J. Bauh. Hist. iii. p.* 292. *Raii Hist. p.* 576. *Synop. p.* 245. Scordium legitimum. *Park. Theat. p.* 111. Chamædrys foliis mollibus, hirsutis, ellipticis, crenatis, verticillis paucifloris. *Hal. Stirp. Helv. n.* 288. Teucrium Scordium. *Withering. Bot. Arrang. p.* 591. *Flor. Dan.* 593.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 706.

Ess. Gen. Ch. *Corollæ* labium superius (nullum) ultra basin 2-partitum, divaricatum ubi stamina.

Sp. Ch. T. foliis oblongis sessilibus dentato-serratis, floribus geminis axillaribus pedunculatis, caule diffuso.

THE root is perennial, fibrous, creeping: the stems are branched, trailing, square, hairy, and more than a foot in length: the leaves are serrated, hairy, oblong, veined, of a dusky-green colour, without footstalks, and placed in pairs: the flowers stand in verticilli or whorls of two, three, or four together, upon short peduncles, placed at the base of the leaves: the corolla is monopetalous, consisting of a short tube, which divides at the mouth into two lips, but the upper is extremely short, and cleft in the middle, and therefore appears to be wanting: the under lip is long, of a purple colour, dentated at the sides, and terminated by a large roundish expanded segment: the calyx is tubular, hairy, and cut at the extremity into five short teeth: the filaments are four, two long and two short, slender, bent, and crowned with simple antheræ: the germen divides into four parts, from the centre of which rises a slender style, furnished with a bifid stigma: the seeds

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are four, naked, of an irregular shape, and lodged in the bottom of the calyx. It is a native of England, in marshy situations, and flowers in July and August.

The leaves of Scordium have a smell somewhat of the garlick kind.[a] and to the taste they are bitterish, and slightly pungent. "When moderately and newly dried they give out their smell and taste both to water and to rectified spirit. In distillation their peculiar flavour arises with water, but the impregnation of the distilled fluid is not strong, nor could any essential oil be obtained on submitting to the operation several pounds of the herb."[b]

The ancients, to whom Scordium was well known,[c] attributed to it a peculiar antiseptic[d] and alexipharmic power, and for many ages it had the character of being remarkably efficacious in all pestilential and putrid diseases; with a view to this, it was afterwards directed in the composition of several officinal medicines,[e] supposed to be antidotes to various kinds of poisons and infections; and we are told, even at a date not very remote from the present, of its successful use in the plague, which raged in Turkey.[f] But notwithstanding the Scordium was formerly considered such a cele-

[a] From this smell it is supposed to take the name Scordium, or Σκορδον, which signifies Garlick; and the milk of animals, which feed upon this plant, is said to acquire a similar flavour. [b] Lewis *Mat. Med.* p. 596.

[c] We are far from being certain that the plant we have figured is really the Scordium of the ancients, and on this account we have not referred it to the Greek writers.

[d] Of the fabulous accounts of its antiseptic powers, we may mention the following from Galen: Scriptum autem est a quibusdam viris gravissimis, cùm in bello interemptorum cadavera multos dies insepulta jacuissent, quæcunque supra scordium fortè fortuna ceciderant, multo minus aliis computruisse, ea præsertim ex parte quæ herbam contigerat. *Lib. de Antidot.* 6. *cap.* 12.

[e] The Mithridate and Theriaca have but lately been expunged from our dispensatories; and though often experienced to be useful remedies, yet with Haller we may say, "Sed cæ farragines sunt medicamentorum, in quibus non dignoscas, cui tribuas eventa." l. c.

[f] Vide *Lettres par De Foy. t.* 1. *p.* 198. and Chenot *de peste, p.* 132.

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rated remedy, and still has place in both the Pharmacopœias; et it appears to be a very insignificant article of the Materia Medica, and is therefore very justly fallen into disuse; and in this opinion we have the authority of Dr. Cullen, who says, " this plant has a bitter, joined with some volatile parts; but neither of these qualities is considerable enough to retain it in the present practice."[g] Bergius however states *virtus* to be antiputredinosa, tonica, diaphoretica, diuretica, resolvens;[h] and some others recommend it to be employed externally in antiseptic cataplasms and fomentations.

[g] *Mat. Med. vol. 2. p. 82.* [h] *Mat. Med. p. 505.*

ROSMARINUS OFFICINALIS. COMMON ROSEMARY.

SYNONYMA. Rosmarinus. *Pharm. Lond. & Edinb.* Rosmarinum coronarium. *Gerard. Emac. p.* 1292. Rosmarinus hortensis angustiore folio. *Bauh. Pin. p.* 217. Rosmarinus coronarius fructicosus. *J. Bauh. Hist. v. ii. p.* 25. *Raii Hist. p.* 515. Libanotis coronaria sive rosmarinum vulgare. *Park. Theat. p.* 71.

Class Diandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 38.

Ess. Gen. Ch. Cor. inæqualis: labio superiore bipartito. *Filamenta.* longa, curva, simplicia cum dente.

THE root is strong, woody, and fibrous: the stalk is shrubby, covered with a rough grey bark, divided into many branches, and rises frequently to the height of six or eight feet: the leaves are sessile, or without footstalks, numerous, long, narrow, entire, obtusely pointed, on the upper side of a dark green, on the under of a greyish or silvery colour, and placed in whorls upon the branches: the flowers are large, of a pale blue colour, and arise

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from the axillæ of the leaves: the calyx is divided into two lips, of these the uppermost is entire, but the undermost is cloven into two pointed segments: the corolla is monopetalous, consisting of a cylindrical tube, longer than the calyx, and divided at the brim into two lips; the upper lip is erect and bifid, the under lip is separated into three segments; of these the middle segment is larger than both the others: the two filaments are long, curved, tapering, towards the base furnished with a small tooth, and supplied with simple antheræ: the germen is separated into four parts, which support a slender style, terminated by a cleft pointed stigma: the seeds are four, of an oblong shape, and lodged in the bottom of the calyx. Rosemary [a] is a native of the South of Europe and the Levant. It is commonly cultivated in our gardens, where it usually flowers in April and May.

The ancients were well acquainted with this plant, as it is mentioned by Dioscorides, Galen, and Pliny.[b] It grows wild in some of the southern parts of France, but more abundantly in Spain and Italy. Its cultivation in this country, like many other plants which we have had occasion to mention, is probably of ancient date, but now cannot be traced beyond the time of Gerard.

Rosemary has a fragrant aromatic smell, and a bitterish pungent taste. The leaves and tops of this plant are the strongest in their sensible qualities: the flowers, which are also directed for use by the College, are not to be separated from their cups or calyces, as the active matter principally, if not wholly, resides in the latter.[c]

[a] Ros dici putatur quia roscidæ sit naturæ, vel quia roris instar aspergatur, vel quia ejus usus in aspergillis, *quod nobis verisimilius videtur:* marinus autem vel quia in marinis locis feliciter proveniat, vel quia saporis marini, hoc est, amari. Voss. Etymolog. Vide Ray, l. c.

[b] It is called Λιβανωτις by the Greeks, (Dioscor. *Lib.* 3. *cap.* 89.) Pliny, *Lib.* 24. *cap.* 11. *de rore marino.* Hence it may have been alluded to by Virgil in the following lines:

Nam jejuna quidem clivosi glarea ruris
Vix humiles apibus casias roremque ministrat. GEORG. *ii. v.* 212.

[c] *Lewis M. M. p.* 544.

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" Rosemary gives out its virtues completely to rectified spirit, but only partially to water, The leaves and tops, distilled with water, yield a thin light pale-coloured essential oil of great fragrancy, though not quite so agreeable as the Rosemary itself: from one hundred pounds of the herb in flower were obtained eight ounces of oil: the decoction thus divested of the aromatic part of the plant yields, on being inspissated, an unpleasant bitterish extract. Rectified spirit likewise, distilled from Rosemary leaves, becomes considerably impregnated with their fragrance, leaving however in the extract the greatest share both of their flavour and pungency. The active matter of the flowers is somewhat more volatile than that of the leaves, the greatest part of it arising with spirit."[d]

Rosemary is reckoned one of the most powerful of those plants, which stimulate and corroborate the nervous system; it has therefore been recommended in various affections, supposed to proceed from debilities, or defective excitement of the brain and nerves; as in certain headachs, deafnesses, giddinesses, palsies, &c. and in some hysterical and dyspeptic symptoms. Dr. Cullen supposes the stimulant power of Rosemary insufficient to reach the sanguiferous system;[e] it has however the character of being an emmenagogue, and the only disease in which Bergius states it to be useful is the chlorosis.[f] The officinal preparations of this plant are the oleum essentiale roris marini, and the spiritus roris marini. It is also a principal ingredient in what is known by the name of Hungary water.

[d] *Lewis, l. c.*

[e] " It has justly had the reputation of a cephalic, or as a medicine that gently stimulates the nervous system, but hardly so strongly as to affect the sanguiferous." *M. M. vol. ii. p.* 151.

By many people Rosemary is drunk as tea for breakfast.

[f] " *Virtus:* resolvens, nervina corroborans, emmenagoga. *Usus.* Chlorosis."—M. M. p. 21.

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MARRUBIUM VULGARE. COMMON WHITE HOREHOUND.

SYNONYMA. Marrubium. *Pharm. Lond. & Edinb.* Marrubium album vulgare. *Bauh. Pin. p.* 230. *Park. Theat. p.* 44. Marrubium album. *Gerard Emac. p.* 693. *Raii Hist. p.* 556. *Synop. p.* 239. Marrubium dentibus calycinis denis, recurvis. *Hal. Stirp. Helv. n.* 258. *Hudson. Flor. Ang. p.* 260. *Withering. Bot. Arr. p.* 617.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 721.

Ess. Gen. Ch. *Cal.* hypocateriformis, rigidus 10-striatus. *Corollæ.* lab. sup. 2-fidum, lineare, rectum.

Sp. Ch. M. dentibus calycinis setaceis uncinatis.

THE root is perennial, and furnished with numerous fibres: the stalks are upright, strong, square, hairy, or downy, and rise about a foot and a half in height: the leaves are roundish or oblong, deeply serrated, veined, wrinkled, hoary, and stand in pairs upon thick broad footstalks: the flowers are white, and produced in whorls at the footstalks of the leaves: the calyx is tubular, scored, and divided at the mouth into ten narrow segments, which are hooked at the end: the corolla is monopetalous, gaping, compressed, consisting of a cylindrical tube, opening at the mouth into two lips: the upper lip is narrow, and cloven or notched; the under lip is broader, reflected, and divided into three segments, the middlemost of which is broad, and slightly scolloped at the end; the lateral segments are spear-shaped and short: the filaments are two long and two short, supplied with simple antheræ, which are concealed in the tube: the germen is divided into four parts, from which issues a slender style, furnished with a cloven stigma: the seeds are four, of an oblong shape. It grows near the sides of roads and rubbish, and flowers in June.

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"The leaves of Horehound have a moderately strong smell of the aromatic kind, but not agreeable, which by drying is improved, and in keeping for some months is in great part dissipated: their taste is very bitter, penetrating, diffusive, and durable in the mouth." "The dry herb gives out its virtue both to watery and spirituous menstrua: on inspissating the watery infusion, the smell of the Horehound wholly exhales, and the remaining extract proves a strong and almost flavourless bitter: rectified spirit carries off likewise greatest part of the flavour of the herb, leaving an extract in less quantity than that obtained by water, and of more penetrating bitterness."[a]

This plant is the πρασιον of the ancients, by whom it is greatly extolled for its efficacy in removing obstructions of the lungs and other viscera.[b] It has chiefly been employed in humoural asthmas,[c] obstinate coughs, and pulmonary consumptions;[d] instances are also mentioned of its successful use in scirrhous affections of the liver,[e] jaundice,[f] cachexies, and menstrual suppressions.[g]

That Horehound possesses some share of medicinal power may be inferred from its sensible qualities, * but its virtues do not appear,

[a] *Lewis. M. M. p.* 411.

[b] *Dioscorides, Lib. iii. c.* 119. See also *Pliny, Lib. xx. c.* 22.

[c] *Rhazes ad Mansor. 3. n.* 42. Particularly, infarctions of the lungs and difficulty of breathing from viscid mucous.

Lösecke, Arzneym. p. 382. *Lange, Miscell. verit. med. p.* 57.

[d] *Alex. Trallian. Lib. v.* Vide *Celsus, Lib. iii. cap.* 22. *Caeliūs Aurelianus, Morb. chron. Lib. ii. p.* 423. *De Haen Rat. Medend. P. iv. p.* 252. But he and *Haller* often found it fail; the latter says, Ego quidem in morbis similibus cum difficili sputorum excreatione infusum aquosum utiliter dedi: & in phthisi satis profecta semel vidi utile fuisse, non autem in aliis exemplis: potius vero mihi movere videtur, quam reprimere. l. c.

[e] *Zacutus Lusitanus, Prax. admir. Lib. 2. Obs.* 48. *Chomel, Usuell. T. i. p.* 232.

[f] *Forrest. Op. Lib.* 19. *Obs.* 19. & 40. [g] *Borellus, Hist. et Observ. Cent. iv. p.* 14.

* Taken in considerable quantities it is said to loosen the body.

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to be clearly ascertained,[h] and the character it formerly obtained is so far depreciated, that it is now rarely prescribed by physicians. A dram of the dry leaves in powder, or two or three ounces of the expressed juice, or an infusion of half a handful of the fresh leaves have been directed for a dose. This last mode is usually practised by the common people, with whom it is still a favourite remedy in coughs and asthmas.[i]

[h] Bergius says, *Virtus:* tonica, emmenagoga, diuretica. *Usus:* Cachexia, ob. mensium, Hysteria, Asthma pituitosum.

[i] "It has had the reputation of a pectoral: but in many trials, its virtues in that way have not been observed; and in several cases it has been judged hurtful. For its use in Asthma and Phthisis, and for its power in resolving indurations of the liver, I consider the authorities of Forrestus, Zacutus Lusitanus, and Chomel, to be very insufficient; and the events they have ascribed to it seem to be very improbable." *Cullen Mat. Med. vol. ii. p.* 155.

MELISSA OFFICINALIS. COMMON BALM.

SYNONYMA. Melissa. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 689. *Raii Hist. p.* 570. Melissa hortensis. *Bauh. Pin. p.* 229. *Tourn. Inst.* 193. Melissa vulgaris. *Park. Theat. p.* 40. Melissa vulgaris odore Citri. *J. Bauh. Hist. iii. p.* 232. Melissa petiolis unifloris, folio brevioribus, foliis cordatis serratis. *Hall. Stirp. Helv. n.* 242.

α Melissa *romana*, floribus verticillatis sessilibus, foliis hirsutis.
Roman Balm. *Mill. Dict.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 728.

Ess. Gen. Ch. *Cal.* aridus, supra planiusculus: lab. superiore subfastigiato. *Corollæ* lab. super. subfornicatum, 2-fidum; lab. inf. lobo medio cordato.

Sp. Ch. M. racemis axillaribus verticillatis: pedicellis simplicibus.

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THE root is perennial, fibrous: the stems are erect, quadrangular, smooth, branched towards the bottom, and usually rise two or three feet in height: the leaves are heart or egg-shaped, spreading, rough, ribbed, veined, deeply serrated, of a bright green colour, and placed in pairs upon footstalks, which of the lower leaves are very long: the flowers are white or yellowish, placed in whorls or clusters at the alæ of the leaves, and appear in June and July: the bracteæ are oblong, notched, hairy, and placed at the peduncles: the calyx consists of one tubular pentangular leaf, divided at the brim into two lips, of these the upper is larger, and divided at the extremity into three segments; the under is shorter at the margin, and cut into two teeth: the corolla is monopetalous, bilabiated, tubular: the upper lip is the shorter, with a notch at the apex; the lower is cleft into three parts, of which the middlemost is the largest: the filaments are four, two long and two short, and furnished with oblong antheræ: the germen divides into four parts, from the centre of which issues a long slender style, crowned with a cleft stigma: the seeds are four, egg-shaped, and lodged at the bottom of the calyx.

Schultz, who has professedly written on this plant,* was unable to say by what name it was known to the ancients. The Μελισσοφυλλον seu Μελισσαινα, of Dioscorides, which has been by some supposed to be our Melissa, is by Nicander referred to the Marrubium.‖

The Balm is a native of the southern parts of Europe, especially in mountainous situations, but it is very common in our gardens, and was cultivated in that of Gerard previous to the year 1596. The herb, in its recent state, has a weak roughish aromatic taste, and a pleasant smell, somewhat of the lemon kind, and hence this species has been named Melissa odore citri.

" On distilling the fresh herb with water, it impregnates the first runnings pretty strongly with its grateful flavour: when large quantities are subjected to the operation at once, there separates

* J. Hen. Schultz, *De Melissa, anno* 1739.

‖ *Theriac* v. 554. 555.

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and rises to the surface of the aqueous fluid a small portion of essential oil, in colour yellowish, and of a very fragrant smell."[a]

Balm was formerly esteemed of great use in all complaints thought to proceed from a disordered state of the nervous system: thus it was very generally recommended in melancholic and hypochondriacal affections, and in the opinion of Paracelsus, the *primum ens Melissæ* promised a complete renovation of man: even Hoffman and Boerhaave, who were probably biassed by the Arabian physicians, deemed it an efficacious remedy.[b] Simon Paulli[c] and others speak of its effects as an emmenagogue; but neither this, nor indeed any other medicinal power, is now attributed to Balm. Prepared as tea, however, it makes a grateful diluent drink in fevers, and in this way it is commonly used either by itself or acidulated with the juice of lemons.

The essential oil, which Hoffman supposes to be a powerful corroberant of the nervous system, probably possesses no qualities peculiarly different from many other aromatics and cordials.

[a] *Lewis, M. M. p.* 417. [b] *Quad. bot. p.* 436.

[c] Fr. Hoffman, *Diss. de remed. domest.* §. 20. Boerh. *Chem. T. ii. p.* 67.

MENTHA PIPERITA. PEPPER-MINT.

SYNONYMA. Mentha piperitis. *Pharm. Lond. & Edinb.* Mentha spicis brevioribus & habitioribus, foliis menthæ fuscæ, sapore fervido piperis. *Raii Synop. p.* 234. *Hist. v. iii. p.* 284. Mentha piperita. *Hudson Flor. Ang. p.* 251. *Withering Bot. Arrang. p.* 599. *Relhan Flor. Cantab. p.* 223. *Icon. V. Knigge Diss. de mentha piperitide.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 713.

Ess. Gen. Ch. Corolla subæqualis, 4-fida, lacinia latiore emarginata. *Stamina* erecta, distantia.

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Sp. Ch. M. flor. capitatis, fol. ovatis petiolatis, staminibus corolla brevioribus.

THE root is perennial, creeping, and furnished with many small fibres: the stems are erect, square, jointed, striated, somewhat branched towards the top, and rise about two feet in height: the leaves are egg-shaped, serrated, pointed, nerved, of a dark green colour, and stand in pairs upon footstalks: the flowers are small, purple, and produced in terminal spikes, separated into clusters: the calyx is tubular, permanent, reddish, striated, hairy, and divided at the brim into five small pointed segments: the corolla is tubular, divided at the limb into four segments, of which the uppermost is the broadest, and notched at the apex: the filaments are two long and two short, tapering, and furnished with roundish antheræ: the germen is divided into four parts, supporting a slender erect style, which is longer than the corolla, and terminated by a cloven expanding stigma: the seeds are four, small, and lodged in the calyx. It is a native of England, affecting watery situations and banks of rivers, and flowers in August.

The spontaneous growth of this plant is said to be peculiar to Britain; but as it is generally preferred to the other species of Mint, its cultivation has long been extended over Europe, and that employed here is commonly raised in gardens. This species has a more penetrating smell than any of the other mints, and a much stronger and warmer taste, pungent and glowing like pepper, sinking as it were into the tongue, and followed by a sensation of coldness.

" By maceration, or infusion, it readily and strongly impregnates both water and spirit with its virtue.—In distillation with water it yields a considerable quantity of essential oil of a pale greenish yellow colour, growing darker coloured by age, very light, subtile, possessing in a high degree the specific smell and

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penetrating pungency of pepper-mint.*——Rectified spirit, drawn off with a gentle heat from the tincture made in that menstruum, brings over little of the virtue of the herb, nearly all its pungency and warmth remaining concentrated in the extract."[a]——

Its stomachic, antispasmodic, and carminative qualities renders it useful in flatulent colics, hysterical affections, retchings, and other dyspeptic symptoms, acting as a cordial, and often producing immediate relief. Its officinal preparations are an essential oil, a simple water, and a spirit.

* Dr. Cullen observes, that "rectification is particularly necessary and proper for this essential oil. What has been called essence of pepper-mint, seems to me to be no other than the rectified oil dissolved in spirit of wine." Vide *M. M. vol. ii. p.* 150.

[a] *Lewis, M. M. p.* 422.

We have already noticed that this plant yields camphor. See *Gaub. Adverss. p.* 99. *sqq.*

MENTHA VIRIDIS. SPEAR MINT.

SYNONYMA. Mentha sativa. *Pharm. Lond. & Edinb.* Mentha angustifolia spicata. *Bauh. Pin. p.* 227. *Raii Hist. p.* 532. Mentha angustifolia spicata, glabra folio rugosiore, odore graviore. *Raii Synop. p.* 233. Mentha romana. *Gerard. Emac. p.* 680. Mentha romana angustifolia, sive Cardiaca. *Park. Theat. p.* 31. Mentha foliis elliptico-lanceolatis, spicis cylindricis glaberrimis. *Hall. Stirp. Helv. n.* 229. Mentha spicata. *Hudson. Flor. Ang. p.* 221. Mentha viridis. *Withering. Bot. Arrang. p.* 597.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 713.

Ess. Gen. Ch. *Cor.* Subæqualis, 4-fida: lacinia latiore emarginata. *Stamina* erecta distantia.

Sp. Ch. M. spicis oblongis, foliis lanceolatis nudis serratis sessilibus, staminibus corolla longioribus.

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THE root is perennial, creeping, and beset with numerous small fibres: the stems are square, hollow, erect, branched, and rise above two feet in height: the leaves are large, elliptical, serrated, pointed, of a bright green colour, and placed in pairs close to the stem, or upon very short footstalks: the flowers are small, purplish, and produced in terminal spikes: the filaments are longer than the corolla. In other respects the different parts of the flower correspond with the description given of the pepper-mint. It flowers in August.

This plant grows wild in many parts of England, and was found on the banks of the Thames by Mr. Hudson; * but it is more rarely met with in this state than the preceding species. It is not so warm to the taste as pepper-mint, but has a more agreeable flavour, and is therefore preferred for culinary uses, and more generally cultivated in our gardens. Many virtues are ascribed to mint by the ancients, but to what species the Ἡδύοσμος & Μίνθη of the Greeks [a] is to be referred, must ever remain uncertain: even at this time the different species of this extensive family are not satisfactorily ascertained; but, in a medical sense, this is of little importance, as the virtues of all reside in the aromatic flavour, which is common to the whole genus.

"On drying, the leaves lose about three-fourths of their weight without suffering much loss of their smell or taste; nor is the smell soon dissipated by moderate warmth, or impaired on keeping. Cold water, by maceration for six or eight hours on the dry herb, and warm water in a shorter time, become richly impregnated with its flavour.—By distillation, a pound and a half of the dry leaves communicate a strong impregnation to a gallon of water: the

* See *Withering*, l. c.

[a] Mint has not escaped the notice of the Latin poets:

——— ——— ——— An tibi quondam
Fœmineos artus in olentes vertere menthas
Persephone, licuit? OVID. MET. L. x. v. 728

By Martial it is called "ructatrix Mentha." *Epigr. L.* 10. 48.

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distilled water proves rather more elegant if drawn from the fresh plant in the proportion of ten pints from three pounds. Along with the aqueous fluid an essential oil distils, of a pale yellowish colour, changing to a red, in quantity near one ounce from ten pounds of the fresh herb in flower, smelling and tasting strongly of the mint, but somewhat less agreeable than the herb itself. Dry mint, digested in rectified spirit, either in the cold or with a gentle warmth, gives out readily its peculiar taste and smell, without imparting the grosser and more ungrateful matter, though the digestion be long continued. The tincture appears by day-light of a fine dark green, by candle-light of a dark red colour:* a tincture extracted from the remaining mint by fresh spirit, appears in both lights green: the colour of both tinctures changes in keeping, to a brown. On gentle distillation, with proof spirit, the spirituous portion which rises at first, discovers little flavour of the mint; but as soon as the watery part begins to distil, the virtues of the mint come over plentifully with it. Hence the spiritus menthæ sativæ. P. L. which is prepared by drawing off a gallon of proof spirit from a pound and a half of the dried plant, proves strongly impregnated with the mint."[b]

To spear-mint are to be ascribed the same medicinal qualities which we have noticed of Pepper-mint;† but the different preparations of the former, though more pleasant, are perhaps less efficacious. "It contains much essential oil, but of an odour somewhat less agreeable than that of lavender or marjoram. It is there-

* Dr. Withering says, "the fact is, that a small quantity of this tincture is green either by day-light or by candle-light, but a large quantity of it seems impervious to common day-light: however, when held between the eye and a candle, or between the eye and the sun, it appears red; so that if put into a flat bottle it appears green, but when viewed edgeways, red. *L. c.*

† In proof of the emmenagogue power of mint, Linnæus informs us, that a woman, by the frequent use of it, became subject to menorrhagia. Vide *Diss. de Menthæ usu, p.* 9.

[b] *Lewis, M. M. p.* 419.

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fore less employed as a cephalic; but it acts very powerfully on the parts to which it is immediately applied, and therefore considerably on the stomach, invigorating all its functions. It acts especially as an antispasmodic, and therefore relieves pains and cholic depending upon spasm. It will also stop vomiting, depending upon such a cause; but there are many cases of vomiting in which it is of no service: and in these cases, anywise depending upon inflammatory irritation in the stomach itself, or in other parts of the body, it aggravates the disease, and increases the vomiting. Practitioners have thought, and I think justly, that the infusion of mint in warm water, agrees better with the stomach than the distilled water, which is often somewhat empyreumatic."[c]

Lewis observes,[d] "that it is said by some to prevent the coagulation of milk; and hence it has been recommended to be used along with milk diets, and even in cataplasms and fomentations for resolving coagulated milk in the breasts: upon experiment, the curd of milk, digested in a strong infusion of mint, could not be perceived to be any otherwise affected than by common water; but milk, in which mint leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself."[e]

The officinal preparations of Spear-mint are an essential oil, a conserve, a simple water, and a spirit.

[c] *Cullen, M. M. vol. ii. p.* 149. [d] *L. c.*

[e] We are told, that "when cows have eaten the mentha arvensis, as they will do largely at the end of summer, when the pastures are bare, and hunger distresses them, their milk can hardly be made to yield cheese; a circumstance which sometimes puzzles the dairy-maids." *With. l. c.*

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MENTHA PULEGIUM. PENNYROYAL MINT.

SYNONYMA. Pulegium. *Pharm. Lond. & Edinb. Raii Hist. p. 533. Synop. p. 235.* Pulegium latifolium. *Bauh. Pin. p. 222.* Pulegium regium. *Gerard. Emac. p. 671.* Pulegium vulgare. *Park. Theat. p. 29.* Mentha caule prostrato, foliis subrotundis obiter dentatis, staminibus exsertis. *Hall. Stirp. Helv. n. 221.* Mentha Pulegium. *Hudson. Flor. Ang. p. 254. Withering. Bot. Arr. p. 602. Lightfoot. Flor. Scot. p. 306. Relhan. Flor. Cantab. p. 224.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant. 713.*

Ess. Gen. Ch. *Cor.* subæqualis, 4-fida: lacinia latiore emarginata. *Stamina* erecta distantia.

Sp. Ch. M. floribus verticillatis, foliis ovatis obtusis subcrenatis, caulibus subteretibus repentibus.

THE root is perennial, creeping, fibrous: the stems are slender, procumbent, obtusely quadrangular, branched, and about a foot in length: the leaves are ovate, obtuse, somewhat indented, smooth, of a bright green colour, and stand upon short footstalks at the joints of the stem: the flowers are small, of a pale purple colour, and surround the stem at the joints in whorls: the calyx is tubular, striated, ventricose, and divided into five bearded segments; of these the two uppermost are the largest; the undermost one the least. The other parts of inflorescence agree with the preceding species of Mentha already described. It flowers in August and September.

Pennyroyal, like the other mints, is a native of Britain, affecting heaths and moist situations; but that used for medicinal purposes is commonly the produce of cultivation. It has a warm pungent

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flavour, somewhat similar to mint, but more acrid, and less agreeable both in smell and taste. Its "active principle is an essential oil, of a more volatile nature than that of mint, coming over hastily with water at the beginning of the distillation, and rising also in great part with highly-rectified spirit; in taste very pungent, and of a strong smell; when newly drawn, of a yellowish colour, with a cast of green; by age turning brownish."[a]

The Pulegium certainly possesses the general properties of the other mints: it is supposed, however, to be of less efficacy as a stomachic, but more useful as a carminative, and emmenagogue, and is more commonly employed in hysterical affections. We are told by Boyle,[b] and others, that it has been successfully used in the hooping-cough; but the chief purpose to which it has long been administered is promoting the uterine evacuation. With this intention, Haller recommends an infusion of the herb with steel, in white wine, which he never knew to fail of success.[c] However, in the opinion of Dr. Cullen, mint is in every respect a more effectual remedy than Pennyroyal; and "nothing but the neglect of all attempts to establish principles could have made physicians think of this as a peculiar medicine different from the other species:"[d] and conformably to this remark, it may be observed, that this plant is less frequently used now than formerly.

Its officinal preparations are a simple water, a spirit, and an essential oil.

[a] *Lewis, M. M. p.* 524.

[b] See his Works, Vol. iv. p. 475. Sauvages *Nosol. T.* 2. *P.* 2. *p.* 157.

[c] *He says,* —— quod me nunquam fefellet. *Vide, l. c.*

[d] *Mat. Med. vol. ii. p.* 150.

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ORIGANUM VULGARE. WILD MARJORAM.

SYNONYMA. Origanum. *Pharm. Lond.* Origanum sylvestre. *Bauh. Pin. p.* 223. Origanum anglicum. *Gerard. Emac. p.* 666. Origanum vulgare spontaneum. *J. Bauh. Hist. iii. p.* 236. *Rait Hist. p.* 539. *Synop. p.* 236. Origanum foliis ovatis, umbellis coloratis, staminibus exsertis. *Hall. Hist. Stirp. Helv. n.* 233. Origanum vulgare. *Huds. Flor. Ang. p.* 262. *ed.* 2*d. Lightf. Flor. Scot. p.* 317. *Withering Bot. Arr. p.* 621. *Curtis Flor. Lond.* 338.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 726.

Ess. Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. spicis subrotundis paniculatis conglomeratis, bracteis calyce longioribus ovatis

THE root is perennial, creeping, and beset with numerous slender fibres: the stem is erect, square, purplish, downy, producing opposite branches, and rises about a foot and a half in height: the leaves stand upon footstalks in pairs at the joints; and are ovate, pointed, somewhat indented at the edges, above smooth, beneath downy, and of a deep yellowish green colour: the flowers are numerous, terminal, of a pale purplish colour, and stand in panicles or clusters: the bracteæ, or floral leaves, are ovalish, sessile, and of a brownish red colour: the calyx is tubular, and divided at the brim into five segments, which are fringed at the edges: the corolla consists of a funnel-shaped tube, longer than the calyx, divided at the limb into two lips, of which the upper is erect, bifid, obtuse; the lower trifid, blunt, and spreading: the filaments are four, two long and two short, of a purple colour, and furnished with double

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antheræ: the germen is divided into four parts, from the centre of which rises a filiform style, crowned with a stigma, which is bifid, and reflexed: the seeds are four, egg-shaped, and lodged in the bottom of the calyx.

This plant grows wild in many parts of Britain, especially on dry chalky hills,[a] or gravelly soils, and produces its flowers in July and August. It has an agreeable aromatic smell, approaching to that of marjoram, and a pungent taste, much resembling thyme, to which it is likewise thought to be more nearly allied in its medicinal qualities than to any of the other verticillatæ, and therefore deemed to be emmenagogue, tonic, stomachic, &c. These effects, however, can only be ascribed to the aromatic and stimulant powers which all the herbs of this natural order seem to possess in common. Distilled with water it yields a moderate quantity of very acrid penetrating essential oil, which has been much used for easing the pain of carious teeth, by dropping it on cotton, and inserting it in the cavity of the aching tooth. The dried leaves used instead of tea, are said to be exceedingly grateful. They are also employed in medicated baths and fomentations.

[a] Hence the derivation Origanum, ὄρος montis gaudium, quod locis montanis delectetur. Vide *Bod. in Theoph. p.* 562.

[r] The country people use the tops of the plant to dye purple. *Withering, l. c.*

ORIGANUM MAJORANA. SWEET MARJORAM.

SYNONYMA. Majorana. *Pharm. Lond. & Edinb.* Majorana vulgaris. *Bauh. Pin. p.* 224. *Raii Hist. p.* 538. Majorana vulgaris æstiva. *Park. Theat. p.* 11. Majorana major. *Gerard. Emac. p.* 664.

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 726.

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Ess. Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. foliis ovatis obtusis, spicis subrotundis compactis pubescentibus.

THE root is perennial, brown, and furnished with many long tough fibres: the stalks are numerous, woody, branched, square, and rise a foot and an half in height: the leaves are egg-shaped, obtuse, downy, entire, of a pale green colour, and stand in pairs upon footstalks: the flowers are small, white, and appear successively between the bracteal leaves, which are numerous, and form round compact terminal spikes: the calyx is tubular, and divided at the brim into five pointed segments: the corolla consists of a funnel-shaped tube, divided at the limb into two lips, of which the uppermost is erect and roundish; the undermost is cut into three pointed segments: the other parts of fructification resemble those of O. vulgare. The flowers appear in August.

This plant is thought to be the Σαμψυχος or Amaracus of the ancients:[a] it has been long cultivated in our gardens, and in frequent use for culinary purposes; but the place of which it is a native has not yet been made known.

The leaves and tops of Marjoram have a pleasant smell, and a moderately warm aromatic bitterish taste. They yield their virtues both to aqueous and spirituous liquors by infusion, and to water in distillation, affording also a considerable quantity of essential oil, amounting, according to Beaumé, to fifteen ounces from one hundred and fifty pounds of the recent plant. This oil, on being long kept, assumes a solid form.

[a] The Amaracus is noticed both by Virgil and Catullus:

——— ubi mollis amaracus illum
Floribus et dulci aspirans complectitur umbrâ. *Æn. lib. i. v.* 698.

Cinge tempora floribus
Suave olentis amaraci. *Juliæ et Manlii Epithal.*

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The medicinal qualities of this plant agree with those of its congener, Wild Marjoram; but being much more fragrant it is deemed to be more cephalic, and better adapted to those complaints known by the name of nervous; and may be therefore employed with the same intentions as lavender. It is directed in the composition of the pulvis sternutatorius by both Pharmacopœias, with a view to the agreeable odour which it diffuses to the asarabacca rather than to its errhine power, which is very considerable.

In its recent state, we are told, that it has been successfully applied to scirrhous tumours of the breasts.[b]

[b] Cohausen in *Comm. Nor. a.* 1742. p. 151.

THYMUS VULGARIS. COMMON GARDEN THYME.

SYNONYMA. Thymus. *Pharm. Edinb.* Thymus vulgaris folio tenuiore. *Bauh. Pin. p.* 219. *Tourn. Inst. p.* 196. Thymum durius. *Dod. Pempt. p.* 275. *Gerard Emac. p.* 573. *Rati Hist. p.* 521. *Park. Theat. p.* 7.

α Thymus vulgaris folio tenuiore. *C. B.*
Narrow-leav'd Garden Thyme.

β Thymus vulgaris folio latiore.* *C. B.*
Broad-leav'd Garden Thyme. *Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 727.

Ess. Gen. Ch. *Calycis* bilabiati faux villis clausa.

Sp. Ch. T. erectus, foliis revolutis ovatis, floribus verticillato spicatis.

* This is the variety to which the figure and description here given apply.

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THE root is perennial, woody, and subdivided into small fibres: the stems are numerous, round, hard, branched, and usually rise about a foot in height: the leaves are small, narrow, elliptical, and stand in pairs upon very short footstalks: the flowers terminate the branches in whorls or round clusters: the calyx is tubular, striated, closed at the mouth with small hairs, and divided into two lips; of these the uppermost is cut into three teeth, the lowermost into two: the corolla is monopetalous, consisting of a tube, which is about the length of the calyx, and divided at the brim into two lips, of a pale purple colour; the *upper lip* is erect, or turned back, and notched at the end; the *under lip* is longer, expanding, and divided into three segments; of these the middle segment is the broadest: the filaments are two long, and two short: the antheræ small and round: the germen is divided into four parts, from the centre of which issues the style, which is thread-shaped, and furnished with a bifid stigma: the seeds are four, small, roundish, and lodged at the bottom of the calyx. It is a native of the South of Europe, and flowers from May till August.

According to C. Bauhin, this plant is the Θυμος of Dioscorides and Theophrastus.[a] It grows wild abundantly in the mountainous parts of Italy and Spain; we are therefore the more induced to suppose it to be the plant of this name so frequently mentioned by the Latin poet.[b] It was cultivated by Gerard, and usually finds place in our gardens with the other pot-herbs.

This herb has an agreeable aromatic smell, and a warm pungent taste. "To water it imparts, by infusion, its aromatic odour, but only a weak taste: in distillation, it gives over an essential oil, in quantity about an ounce, from thirty pounds of the herb in flower;

[a] "Dioscorid. L. 3. c. 44. Theophrast. 4. hist. 7. & 6. hist. 2. 1. caus. 5. απο τε θυω, quod iis qui animi deliquium patiuntur adhibeatur: alii απο της θυμασεος και της θυης deducunt, quod hoc veteres in sacris, quæ igne accenso fiebant, primum usi sint, ut apud Rhodiginum, L. 3. c. 23. legere est."

[b] 'Nerine Galatea, thymo mihi dulcior Hyblæ.' Both this species and the Serpyllum are probably alluded to; they are equally fragrant, and coveted by bees.

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of a gold yellow colour if distilled by a gentle fire, of a deep brownish red if by a strong one, of a penetrating smell, resembling that of the Thyme itself, in taste excessively hot and fiery: the remaining decoction inspissated, leaves a bitterish, roughish, subsaline extract. The active matter, which by water is only partially dissolved, is by rectified spirit dissolved completely, though the tincture discovers less of the smell of the Thyme than the watery infusion: the spirit brings over, in distillation, a part of its flavour, leaving an extract of a weak smell, and of a penetrating camphorated† pungency."[c]

By Bergius the virtues of Thyme are said to be resolvent, emmenagogue, diuretic, tonic, and stomachic;[d] but we find no disease mentioned in which its use is particularly recommended either by him or other writers on the Materia Medica. As agreeing in common with the natural order of verticillatæ, its aromatic qualities may be found equally useful in some of those complaints for which lavender, sage, rosemary, &c. are usually employed.

[c] Lewis, *M. M. p.* 650.

† This plant seems actually to contain a species of camphor, thus noticed by Murray: Camphoræ speciem continet herba, quæ sese declaruit mox post destillationem ejus cum aqua, dum oleum ab ea separaretur, tam in gossypio quam orificio vitri, crystallis exiguis, dein post aliquot dierum moram in fundo vitri crystallis, avellanæ nucis adeo magnitudinis, cubicis, saccharo candi similibus." *App. Med. vol. ii. p.* 125. These with the odour of Thyme, had in every other respect the qualities of camphor. See *Phil. Trans. vol. xxxiii. p.* 321. *sqq. & p.* 361.

[d] *M. M. p.* 536.

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THYMUS SERPYLLUM. WILD, or MOTHER of THYME.

SYNONYMA. Serpyllum. *Pharm. Edinb.* Serpyllum vulgare minus *Bauh. Pin. p.* 220. *Park. Theat. p.* 8. Serpyllum vulgare. *Gerard Emac. p.* 570. *Raii Hist. p.* 521. *Synop. p.* 230. Thymus foliis ovatis ad basin ciliatis. *Hal. Stirp. Helv. n.* 235. Thymus Serpyllum. *Hudson. Flor. Ang. p.* 229. *Withering. Bot. Arrang. p.* 623. *Curt. Flor. Lond.*

α Serpyllum vulgare minus. *C. B.*
Common smooth Mother of Thyme.

β Serpyllum foliis citri odore. *C. B.*
Lemon Thyme.

γ Serpyllum villosum fruticosius, floribus dilute rubentibus. *Ray Synop.* *Hoary Mother of Thyme.*

δ Serpyllum angustifolium hirsutum. *C. B.*
Hairy Mother of Thyme. See *Hort. Kew.*

Class Didynamia. *Ord.* Gymnospermia. *Lin. Gen. Plant.* 727.

Ess. Gen. Ch. *Calycis* bilabiati faux villis clausa.

Sp. Ch. T. floribus capitatis, caulibus repentibus, foliis planis obtusis basi ciliatis.

THE root is perennial, woody, fibrous, and of a brown colour: the stems are numerous, hard, square, branched, procumbent, and rise from four inches to a foot in height: the flowers are of a purplish colour, and stand in whorls towards the top of the stem and branches: the leaves are ovate, entire, smooth, beset with

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numerous small glands, fringed with hairs towards the base, and stand in pairs upon very short footstalks: the calyx, the corolla, and sexual parts, correspond with those mentioned of the Thymus vulgaris. It is a native of Britain, affecting heaths and mountainous situations, flowering in July and August.

It is observed by Mr. Curtis, that "few plants are subject to so many varieties as the Wild Thyme. In its most natural state, when found on dry exposed downs,* it is small and procumbent: when growing among furze or other plants, which afford it shelter, it runs up with a slender stalk to a foot or more in height, and assumes an appearance which might puzzle the young botanist." The specimen, from which the drawing for the annexed plate was taken, grew in a situation which subjected it to neither of these extremes; but it has been so far sheltered as to participate more of the character of the latter than the former. This plant has the same sensible qualities as those of the garden thyme, but has a milder, and rather more grateful flavour. "Its essential oil is both in smaller quantity, and less acrid, and its spirituous extract comes greatly short of the penetrating warmth and pungency of that of the other." From this it appears, that the Serpyllum, though possessing similar qualities, is evidently less medicinal than the foregoing species.

* It has been a received opinion, that this and other aromatic herbs give a flavour to the flesh of sheep that feed where these plants abound: but it is well known that sheep refuse these aromatics when they have a choice of other pasturage. *Curt.* See Account of Sheep Walks in Spain. *Gent. Mag.* 1764.

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SALVIA OFFICINALIS. GARDEN SAGE.

SYNONYMA. Salvia. *Pharm. Lond.* & *Edinb.* Salvia major. *Gerard Emac. p.* 764. *Dodon. Pempt. p.* 288. *Bauh. Pin. p.* 237. Salvia major vulgaris. *Park. Theat. p.* 49. Salvia latifolia. *Bauh. Hist. iii. p.* 304. *Raii Hist. p.* 509. Σφακελος *Theophrast.* & Ελελισφακος *Dioscoridis* existimatur esse.

Varietates,

α Salvia major. *C. Bauh. Aliorumque,* s. c.
Common, or Greater Garden Sage.

β Salvia minor, aurita et non aurita. *Bauh. Pin.* 237. Salvia minor, seu angustifolia, *Auctorum.*
*Small Sage, or Sage of Virtue.**

Class Diandria. *Ord.* Monogynia. *L. Gen. Plant.* 37.

Ess. Gen. Ch. *Cor.* inæqualis. *Filamenta* transverse pedicello affixa.

Sp. Ch. S. foliis lanceolato-ovatis integris crenulatis, floribus spicatis, calycibus acutis.

THE root is perennial, long, and fibrous; the stalk is shrubby, square, firm, divided into many branches, and rises above two feet in height: the leaves are oblong, rough, crenulated, or finely notched at the edges, generally of a reddish or purplish tinge, and stand in pairs upon long footstalks: the flowers appear in June, and terminate the branches in long spikes, they are of a blue colour, monopetalous, tubular, and separate at the extremity into two lips; the upper lip is entire and concave, the lower divides

* Both these varieties are used medicinally; and the narrow leaved sage is by many preferred to the broad.

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into three roundish lobes, of which the middle one is the largest: the calyx is tubular, large, reddish, striated, bilabiated, and cut into acute segments; the two filaments are short, and crossed transversely by two others affixed to them; the antheræ are large and yellow; the style is long, filiform, of a blue colour, and the stigma is bifid; the seeds are four, roundish, naked, and placed at the bottom of the calyx.

Sage is indiginous to the southern parts of Europe, and was cultivated in this country by Gerard, who first published a figure of this plant in the year 1597, and it is now a constant inhabitant of the kitchen garden: it has a fragrant strong smell, and a warm bitterish aromatic taste, like other plants containing an essential oil; it gives out its properties more perfectly to spirituous than to aqueous menstrua. In ancient times sage was celebrated as a remedy of great efficacy;[a] but, at present, few practitioners consider it as an article of much importance in the Materia Medica; and although frequently employed as a sudorific, it seems to have no advantage over other plants, whose aromatic flavour renders the fluid in which they are infused more acceptable to the stomach; and by some it has been successfully used even for the purpose of restraining inordinate sweating.[b] As possessing a small share of

[a] "Cur moriatur homo cui salvia crescit in horto?
Contra vim mortis non est medicamen in hortis."
— "Salvia salvatrix naturæ conciliatrix."
— "Salvia cum ruta faciunt tibi pocula tuta."

"Efficacia et nomen herbæ dedit (a salvando) et cumulum laudum attulit, in tremore artuum, paralysi, obstructione menstruorum, fluore albo, arthritide & rheumatismo, morbis contagiosis, apthis, ulceribus, aliisque multis morbis, quorum nomina colligere absque testium fide non interest."——*Murray Ap. Med.* vol. 2. p. 167.

[b] Infused in wine or spirit, Van Swieten found it remarkably efficacious in stopping night sweats. Vide *Comment.* tom. 2. p. 370.—Quarin remarks, that a strong infusion of sage in water was experienced to be equally successful. *Method. med. febr.* p. 37.—Baron Van Swieten also found it useful in restraining the improper continuing of a flow of milk from the breasts of women, after they had weaned their children. *Com.* tom. 4. p. 645.

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aromatic and astringent power, it may prove a serviceable tonic in some cases of debility of the stomach and nervous system: the Chinese, who are said to have experienced the good effects of sage in this way, value it highly, and prefer it to their own tea. The power of this plant, in resisting the putrefaction of animal substances, has also been adduced in proof of its medicinal efficacy.[c]

[c] From the experiments of Etlinger, it is discovered to have a considerable share of antiseptic power. Vide *Comment. de Salvia*, p. 16.

BETONICA OFFICINALIS. WOOD BETONY.

SYNONYMA. Betonica. *Pharm. Geoff. iii.* 183. *Dale.* 151. *Alston. ii.* 88. *Lewis.* 146. *Edinb. New. Disp.* 146. *Murray. ii.* 158. *Bergius.* 524. *Cullen. ii.* 145. Betonica purpurea. *Bauh. Pin.* 235. *Gerard. Emac.* 714. *Raii. Synop.* 238. *Hall. Stirp. Helv.* 264. *Park. Theat.* 238. B. officinalis. *Hudson. Flor. Ang.* 258. *Withering. Bot. Arr.* 611. *Ic. Flor. Dan.* 726. *Flor. Lond.* 154.

Didynamia Gymnospermia. *Lin. Gen. Plant.* 718.

Gen. Ch. *Cal.* aristatus. *Corollæ* lab. super. adscendens, planiusculum. *Tubus* cylindricus.

Sp. Ch. B. spica interrupta, corollarum labii lacinia intermedia emarginata.

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ROOT perennial, tapering, woody, brownish, furnished with long white fibres. Stalks usually more than a foot in height, erect, square, simple, channelled towards the top, nearer the base hairy. Lower leaves on footstalks, cordate, or lance-shaped, notched, obtuse, veiny, somewhat hairy, and wrinkled: upper leaves narrower, opposite, reflexed. Flowers purple, in spikes composed of several whorls. Bracteæ abundant, placed under the flowers, of the length of the calyx. Calyx permanent, tubular, divided at the edge into five narrow teeth. Corolla monopetalous; tube longer than the calyx, bending inwards, below smooth and white, above purple, downy: upper lip roundish, entire, erect; lower one divided into three segments, of which the middle one is the broadest. Filaments four, longer than the tube, two long and two short, furnished with purple antheræ. Germen divided into four parts. Style tapering, white, longer than the filaments, and terminated by a bifid stigma. Seeds four, of an irregular shape, and lodged in the calyx.

It is common in woods and heaths, flowering in August and September.

The description of the Βετονικη by Dioscorides applies equally to many of the other verticillated plants: he also states it to be purgative, so that it seems very doubtful if by that name he meant the plant here figured.

The leaves and tops of the Betony have an agreeable but weak smell: to the taste they discover a slight warmth, accompanied with some degree of astringency and bitterness. They yield very little essential oil, insomuch that only a few drops can be obtained from a large quantity of the herb.

Betony, like many other plants formerly in great medical estimation, is at this time almost entirely disregarded. Antonius Musa, physician to the Emperor Augustus, filled a whole volume with enumerating its virtues, stating it as a remedy for no less than forty-seven disorders; and hence in Italy arose this proverbial compliment *You have more virtues than Betony.*[a]

[a] The Italians also introduced the maxim *Vende la tonica et compra la Betonica*

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Simon Paulli also ascribes to it powers, which may be considered as rather miraculous than natural, and which did not seem to require contradiction from the experiments of Alston.[b]

Modern writers do not allow the Betony to possess any considerable efficacy: Scopoli indeed says that he experienced its cephalic and corroborant effects; but its sensible qualities show it to be more inert than most of the other verticillatæ. Both this plant and Eyebright enter into the composition of Rowley's British herb tobacco and snuff.

[b] See *Alston. l. c.*

[c] *Flor. Carn. Ed.* 1. *p.* 460.

ORIGANUM DICTAMNUS. DITTANY of CRETE.

SYNONYMA. Dictamnus creticus. *Pharm. Geoff. ii.* 272. *Dalé.* 148. *Alston. ii.* 129. *Lewis.* 274. *Edinb. New Dispens.* 183. *Murray. ii.* 139. *Bergius.* 529. *Bauh. Pin.* 222. *Park. Theat.* 27. *Ray. Hist.* 537. *Ger. Emac.* 795.

Didynamia. Gymnospermia. *Lin. Gen. Plant.* 762.

Gen. Ch. *Strobilus* tetragonus, spicatus, calyces colligens.

Sp. Ch. O. foliis inferioribus tomentosis, spicis nutantibus.

ROOT fibrous, perennial. Stalk about a foot in height, branched, downy, ligneous. Leaves ovate, blunt, opposite, on short footstalks, thick, covered with soft white hairs. Flowers purple, in spikes. Bracteæ roundish, smooth, coloured, numerous, forming quadrangular spikes. Calyx small, five-toothed, concealed by the bracteæ. Corolla monopetalous, consisting of a long tube, divided at the limb into two lips, of which the upper is straight, and en-

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closes the filaments: the under lip is cut into three obtuse lobes, of which the middle one is the largest. Filaments two long and two short, filiform, longer than the corolla, and furnished with simple antheræ. Germen divided into four parts. Style slender. Stigma bifid. Seeds four, of an irregular ovate shape, and lodged at the bottom of the calyx.

It flowers from June till August.

This plant, which is a native of the Island of Candia, appears from Turner to have been cultivated in Britain previous to the year 1568, by Mr. Riche. The specimen here delineated grew in the Royal garden at Kew.

The leaves of this plant are apparently very warm and aromatic; of an agreeable smell, and hot biting taste. They impart their virtues both to water and rectified spirit. Distilled with water, they give over a moderately strong impregnation to the aqueous fluid; from which, if the quantity of Dittany be large, there separates, as Neuman observes, a small portion of a yellowish essential oil, of a highly pungent aromatic taste and smell, and which congeals in the cold into the appearance of camphor.[a]

Both the Greek and Roman writers have fabled this plant into great celebrity; of which a single instance, related by the Latin Poet, affords a beautiful illustration.[b]

Though rarely used at this day, it certainly possesses, in a very considerable degree, the stimulant and aromatic qualities which characterize this class of plants; and has at least an equal share of emmenagogue, carminative, and stomachic virtue.

[a] *Lewis. l. c.*

[b] Hic Venus, indigno nati concussa dolore,
Dictamnum genitrix Cretæâ carpit ab Idâ,
Puberibus caulem foliis, et flore comantem
Purpureo: non illa feris incognita capris
Gramina, cùm tergo volucres hæsêre sagittæ.

ÆN. L. XII. 411.

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TEUCRIUM CHAMÆDRYS. COMMON GERMANDER.

SYNONYMA. Chamædrys. *Pharm. Geoff. iii.* 296. *Dale.* 145. *Alston. ii.* 105. *Lewis.* 219. *Cullen. ii.* 8. *Ed. New. Dispens.* 169. *Murray. ii.* 119. *Bergius.* 506. Chamædrys minor repens. *Bauh. Pin.* 148. *Ger. Emac.* 656. Chamædrys vulgaris. *Park. Theat.* 104. *Ray. Hist.* 527. *Synop.* 231. *Hudson. Flor. Ang.* 248. *With. Bot. Arr.* 592. *Ic. Flor. Dan. p.* 448.

Didynamia Gymnospermia. *Lin. Gen. Plant.* 706.

Gen. Ch. *Corollæ* labium superius (nullum) ultra basin 2-partitum, divaricatum ubi stamina.

Sp. Ch. T. foliis cuneiformi-ovatis incisis crenatis petiolatis, floribus ternis, caulibus procumbentibus subpilosis.

ROOT perennial, branched, fibrous. Stalk about a foot in height, decumbent, roundish, branched, rough. Leaves in pairs, on footstalks, ovate, narrow, irregularly toothed, veined, hairy. Flowers purple, placed in whorls at the alæ of the leaves. Calyx rough, quinquifid. Segments pointed. Corolla consists of a short curved tube, at the limb divided into two lips, of which the upper is short, and cut in the middle in such a manner as to disapper: the lower lip separates into spreading lobes, of which the middlemost is large, and of a roundish form. Filaments two long and two short, slender, white, and furnished with simple antheræ. Germen four, parted. Style filiform. Stigma bifid. Seeds four, enclosed in the calyx.

It is a native of England, flowering in June and July. The annexed figure is taken from a garden specimen.

The leaves and tops of Germander have a moderately bitter taste, accompanied with a weak aromatic flavour, which is diminished but not totally dissipated when the plant is dried. They give out their virtues both to watery and spirituous menstrua. Water seems to

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dissolve the bitter matter more perfectly than pure spirit, the watery extract being stronger in taste than the spirituous;[a] though the quantity of both extracts, according to Cartheuser's experiments, is very nearly alike.

The Chamædrys has been esteemed chiefly in the character of a mild aperient and corroborant: it is recommended in uterine obstructions,[b] intermitting fevers,[c] and in the rheumatism and gout. Of the last mentioned complaint, Charles the Vth is said to have been cured by a vinous decoction of this, with some other herbs, taken daily for sixty successive days.[d]

Other and less equivocal evidence of the good effects of the Chamædrys, in this disorder, are recorded by different authors, who appear to have employed it in various forms and combinations, of which the celebrated antiarthritic, or Portland powder, is an instance.

According to Murray the virtues of this plant should be nearly allied to those of the Marrubium, and therefore promises to be equally useful in asthmatic affections, coughs, and infarctions of the lungs. However, while we admit this conclusion, we consider the virtues of both as somewhat problematical.

[a] *Lewis. l. c.* [b] See *Ray. l. c.*

[c] *Alpinus. Med. Ægypt. p.* 316. *Riverius. Observ. Cent.* 4.—82. *Chomel. Us. ii.* 139. *Seguier. Pl. Veron. T. i. p.* 319. [d] *Vesal. Rad. Chin.* 111.

Many other medicinal plants of the order VERTICILLATÆ still remain unnoticed: but considering the great number of this class here figured, it has been thought that the medical reader will not regret the suppression of the following:

LIN. NAME.	OFFICINAL.	ENGLISH.
Ajuga pyramidalis	Consolida media	Mountain Bugle
Teucrium creticum	Polium creticum	Poley of Candia
..... Chamæpitys	Chamæpitys	Ground pine
..... Montanum	Polium montanum	Mountain poley
Melittis Melissophyllum	Melissophyllum	Bastard balm
Melissa Calamintha	Calamintha	Calamint
Lavendula Stoechas	Stoechas	French Lavender
Satureja hortensis	Satureja	Summer Savory
Nepeta Cataria	Nepeta	Catmint
Origanum creticum	Origanum creticum	Marjoram of Candia
Salvia Sclarea	Sclarea	Clary
Leonurus Cardiaca	Cardiaca	Mother-wort
Prunella vulgaris	Prunella	Self-heal
Lamium album	Lamium album	Dead-nettle

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ORD. XX. PERSONATÆ.

(From *Persona*, a masque.)

Plants having irregular monopetalous flowers, assuming a gaping or grinning appearance.

GRATIOLA OFFICINALIS. HEDGE-HYSSOP.

SYNONYMA. Gratiola. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 518. *Raii Hist. p.* 1885. *Dodon. Pempt. p.* 358. *Hal. Stirp. Helv. n.* 329. Gratiola, Gratia Dei. *Lob. Hist. p.* 238. *Chab. p.* 475. Gratiola centauroides. *Bauh. Pin. p.* 279. Gratiola vulgaris. *Park. Theat. p.* 220. Gratiola officinalis. *Flor. Dan. t.* 363.

Class Diandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 29.

Ess. Gen. Ch. *Cor.* irregularis, resupinata. *Stamina* 2-sterilia. *Caps.* 2-locularis. *Cal.* 7-phyllus: 2 exterioribus patulis.

Sp. Ch. G. foliis lanceolatis serratis, floribus pedunculatis.

THE root is perennial, cylindrical, white, jointed, and furnished with many slender fibres: the stalk is simple, erect, round, thick, and rises nearly a foot in height: the leaves are lance-shaped, long, pointed, serrated towards the extremities, and stand in pairs, without footstalks: the flowers proceed from the base of the leaves,

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and appear in June and August; they are tubular, and divided at the limb into four obtuse irregular segments, of a pale purple colour: the tube is yellow, and intermixed with reddish streaks: the peduncles are slender, of a red colour, and support a single flower: the calyx consists of five or six elliptical pointed segments: the filaments are four, two of which only are furnished with antheræ: the style is tapering, straight, with a divided stigma: the germen becomes an oval pointed capsule, separated into two cells, which contain many small seeds. It is a native of the South of Europe, and grows usually in wet meadows.

Kostrzewski, who wrote professedly upon the virtues of this plant,[a] supposes Matthiolus to be the first botanist by whom it is mentioned; and the first account of its cultivation in Britain is that given by Turner in 1568:[b] and it now has a place in most of our botanical gardens. It has a strong bitter nauseous taste, but little or no odour; and its virtues are extracted more perfectly by aqueous than by spirituous menstrua.

It has been observed, that Gratiola resembles Digitalis both in the shape of its flowers, and in its medicinal effects; and hence it has been called Digitalis minima. It is certainly a powerful and active cathartic, and operates with such violence upon the stomach, as generally to induce vomiting;[c] and on this account it is thought by Chomel to be a medicine adapted only to the more vigorous and robust constitutions.[d] Many others, however, recommend the

[a] Diss. de Gratiola, *Viennæ*, 1775. Vide page 8.

[b] Turn. Herb. *cited in the Hort. Kew.*

[c] Vide Conr. Gesner. *Epist. Med. Lib.* 3. Dodon. *Pempt. p.* 361. Boerhaave *Hist. Pl. Hort. L. B.* Bergius *Mat. Med. p.* 26. These observations apply to this plant both in its recent and dried state.

[d] *Usuell. t.* 1. *p.* 48. [e] Succus nimirum expressus et inspissatus ad dosin 24 vel 30 granorum blande purgat absque vomitu, sed lotium efficaciter pellit. Extractum verò ex residuo post expressionem aqua erutum et amarius est, et eadem dosi violentius purgat Boulduc. *Mem. de l'Acad. R. d. sc.* 1705. *p.* 189. Vide Murray, *Ap. Med. vol.* 2. *p.* 200.

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Gratiola as a perfectly safe and useful purgative, declaring their repeated experience of its efficacy, without ever observing any bad consequence to follow its use. But as it is very uncertain in its effects, the employment of this medicine requires the precaution of a gradual increase of its dose. This plant has commonly been used in hydropical diseases; and in moderate doses it is said not only to act as a hydragogue, but also to manifest a diuretic character;[e] and instances of its good effects in ascites and anasarca, are related by many respectable practical writers.[f] Gesner and Bergius found a scruple of the powder a sufficient dose, as in this quantity it frequently excited nausea or vomiting; others have given it to half a dram, two scruples, a dram, and even more.[g]

An extract of the root of this plant is said to be more efficacious than the plant itself, and exhibited in the dose of half a dram or a dram in dysenteries, produces the best effects.[h] We are likewise told by Kostrzewski,[i] that in the Hospitals at Vienna, three maniacal patients were perfectly recovered by its use; and in the most confirmed cases of lues venerea it effected a compleat cure: it usually acted by increasing the urinary, cutaneous, or salivary discharges.

[f] Heurn. *Prax. Med. p.* 332. Camerar. *Hort. Med. &c. p.* 69. Ettmul. *Oper. tom.* 1. *p.* 716. Heluicb. *Misc. Nat. Cur.* Dec. 3. A. 5. et 6 obs. 67. *p.* 133. Joel. *Oper. Med. tom.* 4. *lib.* 4. Hartm. *Oper. Med. Chym. p.* 60.

[g] Chomel gave half a dram, Hermann two scruples. Many employed the fresh plant in decoction with the addition of cinnamon, mace, ginger, aniseeds, liquorice, &c. See Geoffroy (M. M.) and others.

[h] Boulduc l. c. Kramer *Tent. Bot. p.* 18. where it is said to have similar effects to those of ipecacuanha.

[i] *Diss. cit. p.* 64.

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VERONICA BECCABUNGA. BROOKLIME SPEEDWELL.

SYNONYMA. Becabunga, *Pharm. Lond. Curt. Flor. Lond.* Veronica foliis ovatis serratis glabris ex alis racemosa, *Hal. Stirp. Helv.* n. 534. Anagallis Aquatica vulgaris sive Becabunga, *Park. Theat.* 1236. Anagallis Aquatica minor, folio subrotundo. *Bauh. Pin.* 252. Anagallis seu Becabunga. *Gerard,* 620.

Class Diandria. *Ord.* Monogynia. L. *Gen. Plant.* 25.

Ess. Gen. Ch. Cor. Limbo 4-partito, lacinia infima augustiore. *Capsula* bilocularis.

** *Corymboso-racemosæ.*

Sp. Ch. V. racemis lateralibus, fol. ovatis planis, caule repente.

THE root is perennial, creeping, jointed, and from each joint sends forth many long slender fibres; the leaves are thick, oval, smooth, obtusely serrated, of a pale-green colour, and stand upon the stem in pairs, either sessily, or upon very short footstalks; the stem is round, jointed, creeping, smooth, succulent, often of a reddish brown colour, and from eight to twelve inches high; the racemi or flower spikes, are lateral, opposite, bracteated, and terminated by the flowers, which are of a faint blue colour, and divided into four small roundish leaves; the calyx is quadripartite. This plant is very common in ditches and shallow streams.

The leaves and stem of Brooklime have a bitterish subastringent taste, but manifest little or no acrimony, nor any peculiar odour: by chemical experiments they appear to be subacid, and possess some degree of astringency; these qualities, however, are common to almost all fresh vegetables, and afford no proof of their medical powers.

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This plant was formerly considered of much use in several diseases, and was applied externally to wounds and ulcers; but if it have any peculiar efficacy, it is to be derived from its antiscorbutic virtue. As a mild refrigerant juice it is preferred where an acrimonious state of the fluids prevails, indicated by purient eruptions upon the skin, or in what has been called the hot scurvy; it is ordered in the London Pharmacopœia as an ingredient in the succus cochliariæ compositus, probably with a view to correct the pungency of the cress. Rutty says, "Succus ejus saponaceus est, "aperiens, & majori copia sumptus, alvum movet commodissime." We must, however, acknowledge, that we should expect equal benefit from the same quantity of any other bland fresh vegetable matter taken into the system. To derive any advantage from it, the juice ought to be used in large quantities, or the fresh plant eaten as food.

VERBENA OFFICINALIS. COMMON VERVAIN.

SYNONYMA. Verbena. *Pharm. Dale.* 148. *Alston. vol. ii.* 242. *Lewis.* 660. *Murray. ii.* 209. Verbena communis cæruleo flore. *Bauh. Pin.* 269. V. mas seu recta et vulgaris. *Park. Theat.* 674. V. communis. *Gerard. Emac.* 718. *Raii. Hist.* 535. *Synop.* 236. V. officinalis. *Hudson. Flor. Ang.* 505. *With. Bot. Arr.* 595. *Flor. Dan.* 628. *Flor. Lond. i.* 5.

Didynamia Gymnospermia.*

Gen. Ch. *Cor.* infundib. subæqualis, curva. *Calycis* unico dente truncato. *Semina* 2. s. 4. nuda. *Stam.* 2. s. 4.

* Linnæus places the Verbena in the class of diandria, dividing the different species into the *diandrous* and *tetrandrous;* but our English species, included among the latter, has also the characters of the fourteenth class, and is arranged accordingly by British botanists.

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Sp. Ch. V. tetrandra, spicis filiformibus paniculatis, foliis multifido-laciniatis, caule solitario.

ROOT perennial, tapering, fibrous, of a yellowish colour. Stalks above a foot high, erect, tapering, obtusely quadrangular, beset with short prickles: the branches are opposite, slender, and simple. Leaves opposite, sessile, pinnatifid, or deeply and irregularly indented. Flowers numerous, purplish, placed in long slender spikes. Calyx small, tubular, five-toothed, angular, permanent. Corolla monopetalous, unequal: tube cylindrical, towards the top bent inward; limb expanding, divided into five segments, which are rounded, and nearly equal. Filaments extremely short: antheræ commonly four, two of which are placed above the others. Germen square: style thread-shaped, terminated by an obtuse stigma. Seeds usually four, oblong, obtuse, on the inside flattish, and white, and on the outside brown, convex, grooved, and reticulated.

Mr. Curtis observes that "the Vervain may be considered as a kind of domestic plant, not confined to any particular soil, but growing by the road sides, pretty universally at the entrance into towns and villages;" and Miller declares that it is never found more than a quarter of a mile from a house: hence it has been also called Simpler's Joy.

Ancient writers have distinguished this plant by the names Verbena, Verbenaca, and Peristerium.[a] It is destitute of odour, and to the taste manifests but a slight degree of bitterness and astringency.

In former times the Verbena seems to have been held sacred, and was employed in celebrating the sacrificial rites;[b] and with a view

[a] Vide *Plin. l.* 25. *c.* 2.

[b] It appears to be the ἱερὰ βοτάνη, or περιστερεὼν of Dioscorides. Alston says, Verbena quasi herbena, because all herbs used in sacred rites were so called. Hence Virgil, Verbenasque adole pingues & mascula thura. *Ecl. viii. v.* 65. And Terence in Andria, Ex ara hac sume Verbenas tibi. But Virgil also uses the word to denote a particular plant. Vide *Georg. iv.* 131.

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to this more than the natural power of the plant, it was worn suspended about the neck as an amulet. This practice, thus founded in superstition, was, however, in process of time, adopted in medicine; and therefore to obtain its virtues more effectually, the Vervain was directed to be bruised before it was appended to the neck; and of its good effects thus used for inveterate headachs, Forestus relates a remarkable instance.[c] In still later times it has been employed in the way of cataplasm, by which we are told the most severe and obstinate cases of cephalalgia have been cured; for which we have the authorities of Etmuller, Hartmann, and more especially De Haen.[d]

Notwithstanding these testimonies in favour of Vervain, it has deservedly fallen into disuse in Britain; nor has the pamphlet of Mr. Morley,[e] written professedly to recommend its use in scrophulous affections, had the effect of restoring its medical character. This gentleman directs the root of Vervain to be tied with a *yard of white sattin ribband* round the neck, where it is to remain till the patient recovers. He also has recourse to infusions and ointments prepared from the leaves of the plant; and occasionally calls in aid the most active medicines of the Materia Medica.

[c] *Oper. Omn. L.* 9. *Obs.* 52. [d] *De Haen Rat. Med. P.* 6. *p.* 304.

[e] See his Essay on Schrophula.

VERONICA OFFICINALIS. OFFICINAL VERONICA Or, MALE SPEEDWELL

SYNONYMA. Veronica. *Pharm. Dale.* 186. *Alston. ii.* 244 *Bergius.* 17. *Murray. ii.* 205. *Rutty.* 535. *Lewis.* 660. *Edinl New Dispens.* 301. Veronica mas supina et vulgatissima. *Baul Pin.* 246. V. vera et major. *Gerard. Emac.* 626. V. mas vul garis supina. *Park. Theat.* 550. *Raii. Hist.* 851. *Synop.* 281 *Hall. n.* 540. V. officinalis. *Hudson. Ang.* 4. *Lightf. Scot.* 27 *Withering. Bot. Arr.* 9. *Flor. Dan.* 248. *Flor. Lond. n.* 33.

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Diandria Monogynia. *Lin. Gen. Plant.* 25.

Gen. Ch. *Cor.* Limbo 4-partito: lacinia infima angustiore. *Capsula* bilocularis.

Sp. Ch. V. spicis lateralibus pedunculatis, foliis oppositis, caule procumbente.

ROOT perennial, small, fibrous. Stalks about six inches in length, procumbent, creeping, firm, hairy, or woolly. Leaves oblong, obtuse, slightly serrated, or toothed, rough, placed in pairs, sessile, or on very short footstalks. Flowers purplish, in spikes, either terminal or axillary, each flower standing upon a short peduncle, supported by a linear bracteal leaf. Calyx divided into four segments, which are ovate, obtuse, and beset with glandular hairs. Corolla monopetalous, wheel-shaped, consisting of a short tube, terminated by a spreading limb, of a pale blue colour, and divided into four unequal portions. Filaments two, white, furnished with blue heart-shaped antheræ. Germen roundish, depressed, viscous, and at the base glandular, Style filiform, purplish, and furnished with a stigma, of a truncated appearance. Capsule irregularly heart-shaped, divided into two valves, containing numerous small brown compressed seeds.

It is not unfrequent on dry barren grounds, and heaths, as that of Hampstead, flowering in June and July.

"The leaves of Veronica have a weak not disagreeable smell, which in drying is dissipated, and which they give over in distillation with water, but without yielding any separable oil. To the taste they are bitterish, and roughish: an extract made from them by rectified spirit is moderately bitter and astringent."[a]

This plant, a century ago, was much recommended, especially in Germany, as a substitute for tea; and the French still distinguish it by the name of *Thé d'Europe.* But though this European tea has a roughness and a slight bitterness which is not ungrateful

[a] *Lewis. l. c.*

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to the taste, yet these qualities are so unlike those which we discover in the foreign tea, that the extremely high price of the latter, at that time, must have been the chief reason for causing a contrary opinion, and of reconciling Europeans to a substitute so imperfect as the leaves of Veronica.

As a medicine also this plant has had a considerable share of fame. Francus[b] and Hoffmann[c] ascribe to it numerous virtues, the former calling it *Polychresta herba Veronica.* The disorders in which it has been esteemed most useful are those of the lungs, as coughs, asthmas, consumptions, &c. in which it is said not only to prove expectorant, but by its extraordinary vulnerary power to heal internal ulcers.

Its use has likewise been recommended by several authors in various other complaints requiring medicines of very different characters; but if we judge of the utility of the Veronica by its sensible qualities, it is only to be recognized as an astringent; and not sufficiently powerful as such to produce any considerable effect, and is therefore now disregarded by medical practitioners.

[b] Vide *Polychresta herba Veronica*, published in 1690.

[c] Vide Fr. Hoffmann in *Diss. de infusi Veronicæ efficacia præferenda herbæ Theæ.* Also *Haller. l. c.*

EUPHRASIA OFFICINALIS. COMMON EYEBRIGHT.

SYNONYMA. Euphrasia. *Pharm. Geoff. iii.* 454. *Dale.* 196. *Alston. ii.* 138. *Rutty.* 189. *Bergius.* 543. *Murray. ii.* 186. *Lewis.* 292. *Cullen. i.* 42. *Edinb. New Disp.* 187. Euphrasia officinarum. *Bauh. Pin.* 233. *Ger. Emac.* 663. *Park. Theat.* 1329. *Raii Hist.* 771. *Synop.* 284. Euphrasia officinalis. *Huds. Ang.* 268. *With. Bot. Arr.* 635. *Curt. Flor. Lond.* 335.

Didynamia Angiospermia. *Lin. Gen. Plant.* 741.

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Gen. Ch. *Cor.* 4-fidus cylindricus. *Caps.* 2-locularis, ovato-oblonga. *Antheræ* inferiores altero lobo basi spinosæ.

Sp. Ch. E. foliis ovatis lineatis argute dentatis.

ROOT annual, slender, divided, furnished with numerous minute fibres: stalk about three or four inches high, branched, round, somewhat hoary, reddish. Leaves sessile, opposite, ovate, deeply serrated, concave, rather hairy, and on the upper side marked with linear impressions. Flowers without pedunclès, in racemi, arising at the alæ of the leaves. Calyx pentagonal, permanent, divided at the brim into four segments, which are unequal, of a dingy purplish colour, and beset with small glands. Corolla monopetalous, bilabiated, white: tube cylindrical, crooked, somewhat hairy, at the mouth yellowish: limb separated into two lips: upper lip erect, bifid, toothed, streaked with three purple lines: lower lip largest, divided into three emarginated lobes, of which those placed laterally are painted with purple streaks, and that in the middle tinged with yellow. Filaments four, tapering, purplish. Antheræ brown, bilobed, bearded with a few white hairs at the bottom. Germen egg-shaped, hairy. Style filiform, downy. Stigma blunt, fringed with minute glands. Capsule egg-shaped, notched at the end, divided into two cells, containing several whitish striated seeds.

It is common on barren meadows, heaths, and pastures, producing its flowers from July till September.

Eyebright, without any sensible odour, is somewhat bitterish and astringent, communicating a black colour to a solution of ferrum vitriolatum. It derives its name from its reputed efficacy in various disorders of the eyes, for which it was used both externally[a] and internally, and has long[b] been so much celebrated as to be con-

[a] The usual way of employing it as an external application was by mixing its juice with wine, and then adding a small quantity of honey.

[b] It is mentioned in this character by Gordon, (*Lilium Medicinæ. Fol.* 146. *ed.* 1305) Also by Arnoldus de Villa Nova, Sylvaticus, and others.

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sidered almost in the character of a specific, the "*verum oculorum solamen.*"—But as there cannot possibly be a general remedy for all diseases of the eyes, the absurd and indiscriminate recommendation of Euphrasia as such, must receive but little credit from those who practice medicine on rational principles. It must be acknowledged however, that some authors have stated peculiar complaints of the eyes, in which the use of this plant was thought more remarkably evident; and, judging by these, we should say, that eyes weakened by a long continued exertion, and those that are dim and watery, as in a senile state, are the cases in which Euphrasia promises most advantage; nor are old people to despair, for according to Hildanus[c] and Lanzonus[d] several, at the age of seventy and eighty years, were recovered almost from entire blindness.

But though the great reputation which Eyebright formerly supported for several ages, must have induced some practitioners of later days to have tried its opthalmic power; yet we do not find a single instance of its efficacy recorded in modern times. How far this remark ought to invalidate the positive testimonies in its favour, we leave others to determine.[e]

The Icelanders are said to be in the constant habit of using the juice of Euphrasia in all affections of the eyes.[f]

In common with many other plants, the Euphrasia has also been recommended in the jaundice.

[c] *V. cent. epist. n.* 59.

[d] *Oper. Omn. ed.* 1738. *Tom.* 2. *p.* 394.

The character of Euphrasia was not unknown to Milton:

——— "then purged with euphrasy and rue,
The visual nerve, for he had much to see.

[e] Bergius says, "Ego ex propria experientia nihil certi de hac herba adhuc scio, sed tamen non spernenda arbitror testimonia priscorum."

[f] *Eggert Olafsen. Reise, &c. vol. i. p.* 433.

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ANTIRRHINUM LINARIA. COMMON TOAD-FLAX.

SYNONYMA. Linaria. *Pharm. Geoff. iii.* 730. *Dale.* 193. *Rutty.* 289. *Bergius.* 545. *Murray. ii.* 183. *Lewis.* 395. *Ed. New. Dispens.* 222. Linaria vulgaris lutea, flore majore. *Bauh. Pin.* 212. Linaria lutea vulgaris. *Gerard. Emac.* 550. L. vulgaris nostras. *Park.* 458. *Raii. Hist.* 752. *Synop.* 281. Antirrhinum Linaria. *Huds. Ang.* 238. *Withering. Bot. Arr.* 648. *Curt. Flor. Lond. i.* 5.

Didynamia Angiospermia. *Lin. Gen. Plant.* 750.

Gen. Ch. *Cal.* 5-phyllus. *Cor.* basis deorsum prominens, nectarifera. *Caps.* 2-locularis.

Sp. Ch. A. foliis lanceolato-linearibus confertis, caule erecto, spicis terminalibus sessilibus, floribus imbricatis.

ROOT perennial, woody, crooked, creeping, white, fibrous. Stalks round, erect, simple, tapering, smooth, from one to two feet in height. Leaves nearly linear, pointed, smooth, entire, thickly scattered over the stalk. Flowers large, yellow, and partly orange, crouded over each other in a terminal spike. Calyx divided into five small oval segments, of which the uppermost is the largest. Corolla monopetalous, bilabiated, or ringent, yellow, consisting of a short tube, and a limb composed of two lips; upper lip bifid, having its segments bending down, afterwards turned back, and closing together; lower lip divided into three segments, of which that in the middle is the least; the mouth is closed by a palate, which is bifid, prominent, villous at the bottom, and of a saffron colour. Filaments four, white, two long and two short, glandular at the base: antheræ yellow, bifid, joined in pairs. Germen round. Style filiform. Stigma clubbed. Capsule of a cylindrical form, opening by several divisions at the top, divided into two cells, containing numerous black irregularly shaped seeds.

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It is frequent in barren pastures, hedges, and sides of roads, flowering from July till September.

The leaves of Linaria have a bitterish and somewhat saline taste, and when rubbed betwixt the fingers yield a faint smell, resembling that of elder. They are reported to be diuretic and cathartic, and in both characters to act so powerfully as to give names to this plant expressive of these qualities.[a] Hence they have been recommended internally in dropsies, and other disorders requiring copious evacuations. The Linaria has also been used as a resolvent in jaundice, and in such diseases as have been supposed to proceed from visceral obstructions. But the plant has been chiefly valued for its effects when externally applied, especially in hemorrhoidal affections;[b] for which both the leaves and flowers have been employed in the various forms of ointment, fomentation, and cataplasm.*

An infusion of the flowers is said to be very efficacious in cutaneous disorders; and Hammerin[c] gives an instance in which these flowers, with those of verbascum, used as tea, cured an exanthematous disorder, which had resisted various other remedies tried during the course of three years.

An Unguentum de linaria is to be found in the Wirtemburg, Brandenburg, and Danish Pharmacopœias.[d]

[a] Viz. *Urinalis, Harnkrout, Kreutterbuch.* [b] Vide *Horst. Obs. et. epist. med. lib. 4. obs. 50. Sim. Paulli. Bot.* 415. *Chesnau. Obs.* 360.

* See *Chomel. Pl. Usuell. Tom.* 3. 34. *Geoff. l. c.*

[c] Cited by *Murr. l. c.*

[d] The inventor of this ointment, for the piles, was a Dr. Wolph, who at that time was physician to the Landgrave of Hesse, by whom the doctor was continually interrogated to discover the composition of this ointment; but Wolph obstinately refused, till the prince promised to give him a fat ox annually for the discovery. Hence to the following verse, which was made to distinguish the Linaria from the Esula, viz.

"Esula lactescit, sine lacte Linaria crescit,"

The Hereditary Marshal of Hesse, added:

"Esula nil nobis, sed dat Linaria taurum." *Horst. l. c. a. Murr. cit.*

Linnæus (Flor. Suec.) says this plant is used as a poison for flies.

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VITEX AGNUS CASTUS. CHASTE-TREE.

SYNONYMA. Agnus Castus. *Pharm. Geoff. iii.* 44. *Dale.* 297. *Alston. ii.* 321. *Bergius.* 550. *Murray. ii.* 195. *Lewis.* 27. *Edinb. New Dispens.* 119. Vitex foliis angustioribus cannabis modo dispositis. *Bauh. Pin.* 475. Vitex sive Agnus castus. *Ger. Emac.* 1387. Vitex folio angusto. *Park. Theat.* 1437. Agnus folio non serrato. *Raii. Hist.* 1696.

Didynamia Angiospermia. *Lin. Gen. Plant.* 790.

Gen. Ch. *Cal.* 5-dentatus. *Cor.* limbus 6-fidus. *Becca* 4-sperma.

Sp. Ch. V. foliis digitatis serratis, spicis verticillatis.

THIS small tree or shrub divides into numerous branches; is covered with a greyish bark, and the young shoots are clothed with a downy substance. Leaves digitated, opposite, on long footstalks, separating into five or seven portions, which are long, narrow, elliptical, entire, pointed, on the upper side smooth, under side downy. Flowers purplish, on short peduncles, in whorled spikes. Calyx short, tubular, downy: margin irregular, toothed. Corolla monopetalous, ringent: tube short, cylindrical: limb divided into four segments, of which the undermost is the largest. Filaments four, two long, and two short, of the length of the tube, capillary. Antheræ vesatile. Germen roundish. Style filiform, about the length of the tube. Stigmata two, tapering, spreading. Capsule a roundish berry, divided into four parts, each containing a solitary ovate seed, of a blackish grey colour.

The Chaste-tree is a native of Sicily, affecting humid and shady places. It has long been introduced into the gardens of this country,* where it is found to brave the cold of winter in the open ground.

* It was cultivated here in 1570. *Lobel. Advers.* 423.

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Miller says that he has seen it in full flower in October, when it made a beautiful appearance; but we have not been fortunate enough to meet with it in that state, and therefore had the annexed figure taken from a dried specimen in the Herbarium of Sir Joseph Banks.

The seeds, which have long been medicinally used, and were formerly received as an article of the Materia Medica, have a pungent acrid taste, and an unpleasant aromatic odour. These, from the days of Dioscorides, have been highly celebrated for possessing a power of subduing the inclination natural between the sexes. Hence the name Agnus castus;[a] and from being therefore thought more especially useful to those leading a monastic life, these seeds have been called Piper monachorum, or Monk's pepper. The seeds of the Chaste-tree are, however, so far from being thought antiaphrodisiac, that writers of later times have ascribed to them an opposite quality; and their aromatic pungency seems to favour this opinion, and also that of Bergius, who states them to be carminative and emmenagogue. We are aware that Lewis says, "the seeds in substance, as met with in the shops, have little taste, and scarcely any smell;" but Dr. J. E. Smith, who examined them in their recent state, observes, that "they have an unpleasant aromatic smell:"[b] it is therefore probable that on being long kept they lose much of their sensible qualities, nor is this to be regretted from any medical advantage they seem to promise in our Island; and the plant has been figured here rather with a view to illustrate this natural order, by its variety, than to serve the purposes of medicine.

We have now figured all the medicinal plants classed by Professor Murray in the order Personatæ, except Scrophularia nodosa and aquatica, Avicennia tomentosa, or Anacardium orientale, and

[a] Agnos, (i. e. castus) nominatur, quod, in Thosmophoriis (i. e. sacris Cereris) matronæ castitatem custodientes, eo ad strata uterentur: Lygos vero (quasi vimen) propter virgarum ipsius firmitatem. *Dioscor. l.* 1. *c.* 135. *Gal. Sim. vi. p.* 40. *and cited by Alston. l. c.*

[b] Sketch of a tour on the Continent. *vol. i. p.* 223.

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Acanthus mollis. The two first are both natives of this country, and known by the names of Great or knobby-rooted Figwort, and Water Figwort. They have an ungrateful smell, resembling that of the Linaria, and like it also have been chiefly employed, with a view to their sedative and antiphlogistic effects, as an application to hemorrhoidal tumours. The synonyma of the Avicennia tomentosa *Syst. Veg.* are Bontia germinans *Sp. Pl.* Bontia foliis subtus tomentosis. *Jacq. Sel. Stirp. Amer.* Anacardium orientale *off.* The Malacca Bean.

Jacquin, however, contrary to the opinion of Linnæus, thinks that this tree, which is a native of both Indies, does not produce the Malacca Bean, but that the parent of this fruit is still undescribed. It may also be added, that the medicinal qualities of Anacardium orientale are not yet sufficiently ascertained.

Acanthus mollis, Smooth Acanthus, or Bear's-breech, or Branca ursina, of the foreign pharmacopœias, is a native of Italy and Sicily; and, as containing a mucilaginous matter, has been recommended in the character of an emollient and demulcent; but we do not find any instances of its efficacy recorded.

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ORD. XXI. RHŒADES.

(From *Rhœas* the Red Poppy.)

Including the Poppy and other plants resembling it.

PAPAVER SOMNIFERUM. WHITE POPPY.

Opium Pharmacopœiarum plantæ capsularum succus densatus.

SYNONYMA. Papaver album. *Pharm. Lond. & Edinb.* Papaver hortense semine albo, & β Papaver hortense nigro semine. *Bauh. Pin. p.* 170. *Raii Hist. p.* 853. *Synop. p.* 308. Papaver sativum album. *Gerard. Emac. p.* 369. Papaver simplex album sativum. *Park. Theat. p.* 366. Papaver. *Hall. Stirp. Helv. n.* 1065. P. somniferum. *Hudson. Flor. Ang. p.* 231. *Withering. Bot. Arr. p.* 532. *Relhan. Flor. Cant. p.* 204. Μήκων *Græcis.*

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 648.

Ess. Gen. Ch. *Cor.* 4-petala. *Cal.* 2-phyllus. *Capsula* 1-locularis, sub stigmate persistente poris dehiscens.

Sp. Ch. P. calycibus capsulisque glabris, foliis amplexicaulibus incisis.

THE root is annual, tapering, and branched: the stalk is round, smooth, erect, often branched, of a glaucous green colour, and rises two or three feet in height: the leaves are alternate, large, ovate, lobed, smooth, deeply cut into various segments, and closely em-

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brace the stalk: the flowers are very large, terminal, and usually white or purplish: the calyx consists of two leaves, which are ovate, smooth, concave, bifid, and fall off on the opening of the flower: the corolla consists of four petals, which are large, roundish, entire, undulated: the filaments are numerous, slender, much shorter than the corolla, and furnished with oblong erect compressed antheræ: the germen is large, globular, and upon it is placed the stigma, which is large, flat, radiated, and forms a kind of crown: the capsule is one-celled, smooth, divided half way into many cells, which open by several apertures beneath the crown, and contain very numerous small white seeds. It is a native of England, usually growing in neglected gardens, or uncultivated rich grounds, and flowers in July and August.

This species is said to have been named White Poppy from the whiteness of its seeds; a variety of it however is well known to produce black seeds: the double-flowered white poppy is also another variety; but for medicinal purposes any of these may be employed indiscriminately, as we are not able to discover the least difference in their sensible qualities or effects.

The seeds, according to some authors, possess a narcotic power;[a] but there is no foundation for this opinion: they consist of a simple farinaceous matter, united with a bland oil, and in many countries are eaten as food. As a medicine, they have been usually given in the form of emulsion, in catarrhs, stranguaries, &c.

The heads or capsules of the Poppy, which are directed for use in the Pharmacopœias, like the stalks and leaves, have an unpleasant smell, somewhat like that of opium, and an acrid bitterish taste. Both the smell and taste reside in a milky juice, which more especially abounds in the cortical part of the capsules, and in its concrete state constitutes the officinal opium. These capsules are powerfully narcotic, or anodyne; boiled in water, they impart to the menstruum their narcotic juice, together with the

[a] Hermann, *Cynosur. Mat. Med. p.* 436. Junker, *Conspec. Ther. Gen. p.* 279.

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other juices which they have in common with vegetable matters in general. The liquor, strongly pressed out, suffered to settle, clarified with whites of eggs, and evaporated to a due consistence, yields an extract which is about one-fifth or one-sixth of the weight of the heads. This possesses the virtues of opium, but requires to be given in double its dose to answer the same intention, which it is said to perform without occasioning a nausea and giddiness, the usual effects of opium. This extract was first recommended by Mr. Arnot;[b] and a similar one is now received in the Edinburgh Pharmacopœia. It is found very convenient to prepare the syrup from this extract, by dissolving one dram in two pounds and a half of simple syrup. The syrupus papaveris albi, as directed by both Colleges, is a useful anodyne, and often succeeds in procuring sleep, where opium fails; it is more especially adapted to children. White Poppy heads are also used externally in fomentations, either alone, or more frequently added to the decoctum pro fomento.

Opium, as we have already observed, is obtained from the heads or capsules of this species of Poppy, and is imported into Europe from Persia, Arabia, and other warm regions of Asia. The manner in which it is collected has been described long ago by Kæmpfer and others; but the most circumstantial detail of the culture of the Poppy, and the method of procuring the opium from it, is that given by Mr. Kerr, as practised in the province of Bahar: he says, "The field being well prepared by the plough and harrow, and "reduced to an exact level superficies, it is then divided into "quadrangular areas of seven feet long, and five feet in breadth, "leaving two feet of interval, which is raised five or six inches, "and excavated into an aqueduct for conveying water to every "area, for which purpose they have a well in every cultivated "field. The seeds are sown in October or November. The plants "are allowed to grow six or eight inches distant from each other, "and are plentifully supplied with water. When the young plants "are six or eight inches high, they are watered more sparingly.

[b] *Medical Essays & Obs. by a Society at Edinb. vol. 5. p. 108.*

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"But the cultivator strews all over the areas a nutrient compost "of ashes, human excrements, cow dung, and a large portion of "nitrous earth, scraped from the highways and old mud walls. "When the plants are nigh flowering, they are watered profusely "to increase the juice.

"When the capsules are half grown, no more water is given, "and they begin to collect the opium.

"At sun-set they make two longitudinal double incisions* upon "each half-ripe capsule, passing from below upwards, and taking "care not to penetrate the internal cavity of the capsule. The "incisions are repeated every evening until each capsule has re- "ceived six or eight wounds; they are then allowed to ripen their "seeds. The ripe capsules afford little or no juice. If the wound "was made in the heat of the day, a cicatrix would be too soon "formed. The night-dews by their moisture favour the exstil- "lation of the juice.

"Early in the morning, old women, boys, and girls, collect the "juice by scraping it off the wounds with a small iron scoop, and "deposit the whole in an earthen pot, where it is worked by the "hand in the open sunshine, until it becomes of a considerable "spissitude. It is then formed into cakes of a globular shape, and "about four pounds in weight, and laid into little earthen basins "to be further exsiccated. These cakes are covered over with "the Poppy or tobacco leaves, and dried until they are fit for "sale. Opium is frequently adulterated with cow-dung, the ex- "tract of the Poppy plant procured by boiling, and various other "substances, which they keep in secresy."——"Opium is here "a considerable branch of commerce. There are about 600,000 "pounds of it annually exported from the Ganges."[c]

It appears to us highly probable, that the White Poppy might be cultivated for the purpose of obtaining opium to great advan-

* Kaempfer says, that in Persia, a five-pointed knife is used for making the incisions. *Amœn. Exot. Obs.* 15.

[c] See *Medical Observations and Inquiries, vol. 5. p. 317.*

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tage in Britain. Alston says, "the milky juice, drawn by incision from Poppy-heads, and thickened either in the sun or shade, even in this country, has all the characters of good opium; its colour, consistence, taste, smell, faculties, phœnomena, are all the same; only, if carefully collected, it is more pure and more free of feculencies."[d]

Similar remarks have also been made by others, to which we may add those of our own; for during the last summer, we at different times made incisions in the green capsules of the White Poppy, from which we collected the juice, which soon acquired a due consistence; and was found, both by its sensible qualities and effects, to be very pure opium.

Opium, called also Opium Thebaicum, from being anciently prepared chiefly at Thebes, has been a celebrated medicine from the remotest times. It differs from the Meconium, which by the ancients was made of the expressed juice or decoction of the Poppies.[e]

Opium is imported into Europe in flat cakes, covered with leaves to prevent their sticking together: it has a reddish brown colour, and a strong peculiar smell: its taste, at first, is nauseous and bitter, but soon becomes acrid, and produces a slight warmth in the mouth: a watery tincture of it forms an ink, with a chalybeate solution. According to the experiments of Alston, it appears to consist of about five parts in twelve of gummy matter, four of resinous matter, and three of earthy, or other indissoluble impurities.[f]

The use of this celebrated medicine, though not known to Hippocrates, can be clearly traced back to Diagoras who was nearly his cotemporary, and its importance has ever since been gradually advanced by succeeding physicians of different nations. Its extensive practical utility however has not been long well understood; and in this country perhaps may be dated from the

[d] *Medical Essays & Obs. vol. 5. p. 116.*

[e] Hence the ancients justly deemed the "Meconium multum opio ignavius."

[f] Vide *l. c.*

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time of Sydenham. Opium is the chief narcotic now employed; it acts directly upon the nervous power, diminishing the sensibility, irritability, and mobility of the system; and, according to a late ingenious author, in a certain manner suspending the motion of the nervous fluid, to and from the brain, and thereby inducing sleep, one of its principal effects.[s] From this sedative power of opium, by which it allays pain, inordinate action, and restlessness, it naturally follows, that it may be employed with advantage in a great variety of diseases. Indeed, there is scarcely any disorder in which, under some circumstances, its use is not found proper; and though in many cases it fails of producing sleep, yet if taken in a full dose, it occasions a pleasant tranquillity of mind, and a drowsiness, which approaches to sleep, and which always refreshes the patient. Besides the sedative power of opium, it is known to act more or less as a stimulant, exciting the motion of the blood; but this increased action has been ingeniously, and, as we think, rationally ascribed to that general law of the animal economy, by which any noxious influence is resisted by a consequent re-action of the system. By a certain conjoined effort of this sedative and stimulant effect, opium has been thought to produce intoxication, a quality for which it is much used in eastern countries.

We shall now proceed to consider the use of opium in particular diseases, beginning with fevers.

In most continued fevers of this climate, though originating from contagion, or certain corruptions of human effluvia, &c. there is, at the beginning, more or less of inflammatory diathesis, and while this continues, opium would generally aggravate the symptoms, and prove dangerous. Its use is likewise forbidden in the more advanced stage of this fever, whenever topical inflammation of the brain is ascertained, which sometimes exists and produces delirium, though other symptoms of the nervous and putrid kind prevail. But when irritation upon the brain is not of the inflam-

[s] See Cullen's *Mat. Med.* C. sedantia. See also what is said of opium.

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matory kind, and debility has made much progress, or where delirium is accompanied with spasmodic affections, opium is a sovereign remedy, and may be employed in large doses every eight hours, unless a remission of the symptoms and sleep take place.[h]

In intermittent fevers, opium, in combination with other medicines, was much used by the ancients; but since the introduction of the Peruvian bark, opium is seldom trusted to for the cure of these disorders. This medicine however has been strongly recommended as an effectual means of stopping the recurrence of the febrile paroxysms; and has been given before the fit, in the cold stage, in the hot stage, and during the interval, with the best effects;[i] producing immediate relief, and in a short time curing the patient, without leaving those abdominal obstructions which have been ascribed to the bark. But in these fevers perhaps the best practice is to unite opium with the bark, which enables the stomach to bear the latter in larger doses, and adds considerably to its efficacy.[k]

In inflammatory diseases the use of opium has been much condemned; and Young has established a general rule, "that opium is improper in all those diseases in which bleeding is necessary:"[l] this however has been much disputed;[m] and there are certainly

[h] Vide Cullen *l. c.*

[i] Berryat, who is a strenuous advocate for the use of opium in intermittents, recommends it to be given along with an infusion of centaury an hour before the accession of the paroxysm. See *Memoires presentés à L'Acad. Royal des Scien.* 1755. *T.* 2. *p.* 254.

Lind prefers giving it half an hour after the commencement of the hot fit. Vide *Dis. in hot climates, p.* 316. See also Murray's *Med. Pract. Bib. p.* 321.—On this subject see Brandreth, *Diss. inaug. de febr. interm. Ed.* 1770. Stoerck, *A. Med.* 1. *p.* 57. Tralles, *De Opio Sect.* 2. *p* 70. And others.

[k] Cullen *l. c.* [l] *Treatise on Opium. sect.* 39.

[m] See Remmet *Diss. inaug. de opii usu in morb. inflam. Ed.* 1774. Triller, *Diss. de suspecta opii ope in pluritide, p.* 4. Also Tralles *l. c.* De Haen *Rat. Med. P.* 4. *p.* 94. &c.

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numerous exceptions to it, which we shall now recite in the words of Dr. Cullen. "Such are those cases in which the inflammatory "state arises from irritation in a particular part, producing "spasm, and supervening inflammation. Thus in cases of jaundice, "I have found a biliary stone, in passing the biliary ducts, give "such an irritation as to produce a considerable inflammatory "state in the system; and though I have found it necessary, for "moderating this, to employ blood-letting, yet, as I considered "the passage of the stone to be chiefly interrupted by a spasmodic "constriction of the ducts, I have employed opium for taking off "this with great advantage. Similar circumstances have fre-"quently occurred in the case of urinary calculi passing the "ureters, in which I have found it necessary to employ opium "and blood-letting at the same time.

"In like manner as opium is useful in moderating excretions, "so when the irritation occasions an increase of these excretions, "which is attended with affections which irritate the whole "system, opium becomes especially useful. Hence it becomes "so generally useful in catarrhal affections, and the cough at-"tending them; and probably it is this analogy that has brought "the use of opium to be frequently employed in pneumonic in-"flammations. It is possible that there may be cases of such "inflammations wherein the opium may be more useful in taking "off the cough, than hurtful by aggravating the inflammatory "state of the system: but I have hardly met with such cases; and "even in the recent state of catarrhs from cold, I have found the "early use of opium hurtful: and in cases of pneumonic inflam-"mation, I have always found it to be very much so, if exhibited "before the violence of the disease had been moderated by re-"peated blood-letting. When that indeed has been done, I have "found the opium very useful in quieting the cough, and I "have hardly ever found it hurtful by stopping the expectoration. "It may suspend this for some hours; but if the glands of the "bronchia have been duly relaxed by bleeding and blistering,

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" the expectoration after the use of opiates always returns with " more advantage than before. The mucus which had issued " before had been poured out from the follicles in an acrid state; " but, by being made to stagnate, it becomes milder, and is dis- " charged in what the ancients called a concocted state, with more " relief to the lungs."[a]

When opium is so managed as to procure sweat, it will tend to remove an inflammatory state of the system, and may prove generally useful; a notable instance of this we observe in the cure of acute rheumatism by means of Dover's powder.

In the small-pox opium, since the time of Sydenham, has been very generally and successfully prescribed, especially after the fifth day of the disease; but during the first stage of the eruptive fever, we are told that it always does harm; an opinion which our experience at the Small-pox Hospital warrants us to contradict: for even at that period of the disorder we often find the pulse languid, and the countenance pale, though pains in the loins and head are at the same time very severe; these symptoms, with restlessness, and other signs of irritability, which appear for some days after the attack of the disease, are considerably relieved by opium; to which however we usually add camphor and vinum antimonii tartarisati, taking care always to keep the body sufficiently open by the frequent use of a proper cathartic.

In hæmorrhagic disorders the use of opium is inferred from its known effects in restraining all the excretions, except that of sweat; but unless the hæmorrhages be of the passive kind, or excited by irritation, unattended with inflammation, opium may produce considerable mischief, and therefore its use in these complaints requires great circumspection.

In dysentery opium, though not to be considered as a remedy, may however be occasionally employed to moderate the violence of the symptoms.

In diarrhœa, especially when the acrimony has been carried off

[a] Cullen *l. c.*

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by a continuance of the disease, opium is a certain and efficacious remedy.

In cholera and pyrosis, opium is the remedy chiefly trusted to.

In cholic it is employed with laxatives; and no doubt often prevents ileus and inflammation, by relieving the spasm.° Even in ileus and in incarcerated hernia, it is often found to allay the vomiting, the spasms, the pain, and sometimes to diminish the inflammation, and prevent the gangrene of the strangulated gut.

Opium has been lately recommended for the cure of the venereal disease; and instances are adduced in which this medicine succeeded, where mercury had failed; yet few practitioners, we apprehend, will trust to opium alone in these complaints: it is generally allowed, however, to be an useful auxiliary, and greatly to assist the action of mercury. Its use in preventing and stopping the progress of gangrene is well established.

Opium is successfully used in different species of tetanus, and affords relief to various spasmodic and convulsive symptoms occuring in several diseases, which it would exceed our limits to describe particularly; of these we may mention asthma, epilepsy, dyspepsia, hypochondriasis, rabies canina, chorea sancti viti, mania, &c. &c.

Respecting the external application of opium authors seem not sufficiently agreed. Some alledge that when applied to the skin it allays pain and spasm, procures sleep, and produces all the salutary or dangerous effects which result from its internal use; while others assert that, thus applied, it has little or no effect whatever. But there is no doubt that, when mixed with caustic, it diminishes the pain, which would otherwise ensue, probably by decreasing the sensibility of the part. Injected up the rectum, it has all the effect of opium taken into the stomach, but to answer this purpose double the quantity is to be employed. Applied to the naked nerves of animals, it produces immediate torpor, and loss of power

° See Mead, *Mon. et præcepta medica, p.* 64. Pringle, *Diss. of the Army. p.* 152. Haen *Rat. Med. P.* 3. *p.* 94. *P.* 9. *p.* 137.

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in all the muscles with which the nerves communicate. Opium taken into the stomach, in an immoderate dose, proves a narcotic poison, producing vertigo, tremors, convulsions, delirium, stupor, stertor, and finally fatal apoplexy.

The officinal preparations of this drug are opium purificatum, pilulæ ex opio, pulvis opiatus, tinctura opii, and tinctura opii camphorata; it also enters the pulvis sudorificus, balsamum anodynum, electuarium japonicum, pulvis e creta composita, &c.

The requisite dose of opium varies in different persons, and in different states of the same person. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another; and a dose that might prove fatal in cholera or cholic, would not be perceptible in many cases of tetanus or mania. The lowest fatal dose, to those unaccustomed * to take it, seems to be about four grains; but a dangerous dose is so apt to produce vomiting, that it has seldom time to occasion death. When given in too small a dose, it often produces disturbed sleep, and other disagreeable consequences; and in some cases it seems impossible to be made to agree in any dose or form. Often, on the other hand, from a small dose, sound sleep and alleviation of pain will be produced, while a larger one occasions vertigo and delirium. Some prefer the repetition of small doses; others the giving a full dose at once: its operation is supposed to last about eight hours.

* It is well known, that by the continued use of opium the dose requires to be increased to produce the effect desired; and we are told of one instance in which it was increased to ten drams a day. See *Garcias Ab Horto Arom.* vers. *Clus.*

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PAPAVER RHŒAS. RED, or CORN POPPY.

SYNONYMA. Papaver erraticum. *Pharm. Lond.* Papaver erraticum majus. *Bauh. Pin. p.* 171. Papaver erraticum Rhœas, sive sylvestre. *Park. Theat. p.* 367. Papaver laciniato folio, capitulo breviore glabro, annuum, Rhœas dictum. *Raii. Synop. p.* 308. Papaver *Theoph. Diosc.* Papaver foliis semipinnatis hispidis fructu ovato glabro. *Hall. Hist. Stirp. Helv. n.* 1064. P. Rhœas. *Gerard. Emac. p.* 371. *Hudson. Flor. Ang. p.* 230. *Withering. Bot. Arr. p.* 551. *Relhan. Flor. Cantab. p.* 203. *Curtis, Flor. Lond. iii, n.* 36.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 648.

Ess. Gen. Ch. *Cor.* 4-petala. *Cal.* 2-phyllus. *Caps.* 1-locularis, sub stigmate persistente poris dehiscens.

Sp. Ch. P. caps. glabris globosis, caule piloso multifloro, fol. pinnatifidis incisis.

THE root is annual, simple, fibrous: the stalk is upright, branched, having hairs standing at right angles with the stem, which rises from one to two feet in height: the leaves are pinnated, toothed, hairy on both sides, at the base sheath-like: the peduncles are slender, furnished with hairs like the stem, and each supports a single flower: the calyx consists of two leaves, which are ovate, rough, concave, and deciduous: the corolla is composed of four petals, which are large, spreading, roundish, unequal, of a bright scarlet colour, and marked at the base with a shining black spot: the filaments are numerous, slender, purplish, and furnished with roundish compressed antheræ: the germen is egg-shaped, truncated at the top: there is no style: the stigma is convex, radiated: the radii of a purple colour, and permanent: the capsule

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answers the description given of the germen; it is smooth, marked with several longitudinal projecting lines, which are in number equal to the radii of the stigma; at the top it is scolloped: the radii are numerous, minute, and of a purple colour.

This plant is common in corn fields, and flowers in June and July. It may be distinguished from *P. dubium*, to which it bears a general resemblance, by its urn-shaped capsules, and by the hairs upon the peduncles standing in a horizontal direction.

The capsules of this species, like those of *somniferum*, contain a milky juice, of a narcotic quality, but the quantity is very inconsiderable, and has not been applied to any medical purpose; but an extract prepared from them has been successfully employed as a sedative.[a]

The flowers have somewhat of the smell of opium, and a mucilaginous taste, accompanied with a slight degree of bitterness. A syrup of these flowers is directed in the London Pharmacopœia, which has been thought useful as an anodyne and pectoral, and is therefore prescribed in coughs and catarrhal affections; but it seems valued rather for the beauty of its colour, than for its virtues as a medicine.

[a] *Boulduc Hist. de L'Acad. Royal des Scien. de Paris*, 1712. *p.* 52. *Chomel. Pl. usuell. T. i. p.* 125. Fouquet of Montpellier prefers this extract to opium. See Murray, *App. Med. vol. ii. p.* 213.

CHELIDONIUM MAJUS. GREATER, or COMMON CELANDINE.

SYNONYMA. Chelidonium majus. *Pharm. Geoff. iii.* 309. *Dale.* 210. *Alston. i.* 407. *Lewis.* 224. *Edinb. New. Dispens.* 170. *Murray. ii.* 300. *Bergius.* 451. *Ger. Emac.* 1069. *Raii. Hist.* 858. *Synop.* 309. *Hall. Helv. n.* 1059. Chelidonium majus vulgare. *Bauh. Pin.* 144. *Park. Theat.* 616. C. majus. *Huds. Ang.* 228. *Withering. Bot. Arr.* 547. *Flor. Dan. t.* 542.

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Polyandria Monogynia. *Lin. Gen. Plant.* 647.

Gen. Ch. *Cor.* 4-petala. *Cal.* 2-phyllus. *Siliqua* 1-locularis, linearis.

Sp. Ch. C. pedunculis umbellatis.

ROOT perennial, tapering, branched, externally brown, internally yellow. Stalks erect, cylindrical, branched, somewhat hairy, from one to two feet in height. Leaves pinnated, terminal leafit large, and often lobed; pinnæ roundish, with deeply scolloped edges. Flowers yellow, in small umbels, upon long hairy footstalks. Calyx consisting of two ovate, entire, hairy, deciduous leaves. Corolla of four petals, which are circular, large, spreading, narrow at the base. Filaments from twenty to thirty, compressed, tapering, shorter than the corolla. Antheræ double, oblong, flattish. Germen cylindrical, long, bent. Stigma blunt. Pod long, valved, somewhat tapering at each end, containing several oval shining seeds attached to the receptacle, which is placed at the junction of the valves.

It grows in hedges, or rough uncultivated places, flowering in most of the summer months.

"The leaves and roots of Celandine have a faint unpleasant smell, and a bitterish very acrid and very durable taste, which is considerably stronger in the roots than in the leaves. Both water and rectified spirit extract nearly the whole of their pungent matter: the leaves, notwithstanding the yellow juice which issues so plentifully from a slight wound, and in which their activity seems to reside, give to rectified spirit a green tincture: the roots, which yield a copious saffron red juice, tinge the same menstruum of a brownish yellow."

"The pungency of this plant is not of the volatile kind, little or nothing of it rising in distillation with water any more than with spirit: it is nevertheless greatly abated by drying the plant itself, or by inspissating with a gentle heat the spirituous or watery infusions."[a]

[a] *Lewis. l. c.*

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This acrid plant has been much recommended in the general character of an aperient and attenuant. In jaundice it was long considered as the most effectual remedy that could be employed, as appears from the writings of Dioscorides, Galen, Forestus, and other authors of more recent date; hence it was a principal ingredient in the *decoctum ad ictericos* in the Edinburgh Pharmacopœia. Nor has its use been confined to hepatic obstructions; in those of the other viscera, as well as in the mesenteric and lymphatic glands, it is said to have been equally efficacious.[b]

It has also been successfully employed as an expectorant; and several writers found it of great efficacy in curing intermittents.[c] It has been administered in various forms and doses. Half a dram, or a dram of the dry root in powder, or an infusion in wine or water of a dram, or a dram and an half, of the fresh root, or three or four drops of its yellow juice in any convenient vehicle, are directed for a dose. We have little doubt but that the virtues of Celandine have been greatly exaggerated, and its general employment in jaundice seems to have originated in the absurd doctrine of signatures: in certain cases however we should expect to find it an useful remedy, for it evidently possesses active powers; and thus it is externally used to destroy warts, clean foul ulcers, and remove opacities of the cornea.

[b] *Lange. De Med. Brunf. p.* 124. [c] See *Murray. l. c.*

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ORD. XXII. PUTAMINEÆ.

(From *Putamen,* a shell)

Certain plants of a similar habit, whose seed-vessel or fruit is commonly covered with a woody shell.

CAPPARIS SPINOSA. COMMON CAPER-BUSH.*

SYNONYMA. Capparis. *Pharm. Geoff. iii.* 250. *Dale.* 324. *Alston. i.* 370. *Bergius.* 449. *Murray. ii.* 305. *Edinb. New Disp.* 160. Κεππαρις. *Dioscor.* Capparis spinosa fructu minori, folio rotundo. *Bauh. Pin.* 480. Capparis rotundiore folio. *Ger. Emac.* 895. *Park. Theat.* 1023. *Ray. Hist.* 1629. *Ic. Smith. Specileg. Bot. t.* 20.

Polyandria Monogynia. *Lin. Gen. Plant.* 643.

Gen. Ch. *Cal.* 4-phyllus, coriaceus. *Petala* 4. *Stam.* longa. *Bacca* corticosa, unilocularis, pedunculata.

Sp. Ch. C. pedunculis solitariis unifloris, stipulis spinosis, foliis annuis, capsulis ovalibus.

ROOT woody, crooked. Stem trailing, much branched, round, smooth: branches alternate, spreading, often downy, leafy, many flowered. Leaves alternate, on short footstalks, spreading, oval, or roundish, in the wild plant often terminated by a little sharp point, which disappears by culture, entire, veiny, succulent, bright green, deciduous. Stipulæ none: but in their stead are two spines at the base of the footstalks, acute, somewhat recurved, yellowish, which are nearly obliterated in the cultivated plant. Flowers numerous, axillary, solitary, on footstalks, without bracteæ,

* The only medicinal plant of this order.

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large, handsome, inodorous. Flower-stalks round, longer than the leaves. Calyx of four unequal concave leaves, tipped with purple. Petals much larger than the calyx, spreading, obovate, waved, white, with a faint tincture of red. Stamina very numerous, the length of the petals, spreading, slender in the upper part, pale purple like the antheræ. Germen oval, small, green, standing on a round purplish footstalk, which is longer than the stamina. Stigma small, blunt. Capsule oblong, oval, coriaceous.

It is a native of the south of France, Italy, and the Levant.

Dr. Smith, of whose figure and description of the Caper-bush we have here availed ourselves, says, "it is surprising that this beautiful shrub, which is as common in the south of France as the bramble with us, and which grows luxuriantly in the open air, when trained against a wall, even at Paris, should be almost unknown in the English gardens, where it can scarcely be made to flower, except in a stove, with all possible care."[a]

The buds, or unexpanded flowers of this plant, are in common use as a pickle; and for this purpose the smaller or younger buds are most esteemed.

This grateful pickle has the character of an antiscorbutic, and of removing hepatic and other visceral obstructions; but the part of the plant which has been chiefly recommended for medicinal purposes, is the bark of the root. This is of considerable thickness, externally of an ash colour, and transversely wrinkled; on drying it rolls up into quills of about a third of an inch in diameter; its taste is somewhat aromatic, bitterish, and acrid.

By Dioscorides, and other ancient writers, it was thought of great efficacy as a deobstruent, and was generally employed in obstructions of the liver and spleen, menstrual suppressions, and sciatica; in this view it has also been used by Forestus[b] and Sennertus;[c] and on the presumption of its deobstruent power, it is reckoned one of the five less aperient roots: at present, however, its use is wholly laid aside.

[a] *Specil. Bot. t.* 20. [b] *Oper. Lib.* 20. *Obs.* 2. & 3. [c] *Pract. Lib.* 3. *P.* 4. *c.* 2. & 3.

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ORD. XXIII. SILIQUOSÆ.

(From *Siliqua*, a pod)

Plants having a pod for their seed-vessel.

COCHLEARIA OFFICINALIS. COMMON SCURVY-GRASS.

SYNONYMA. Cochlearia hortensis. *Pharm. Lond. & Edin.* Cochlearia. *J. Bauh.* 2. 942. Cochlearia rotundifolia. *Gerard.* 324. Cochlearia folio subrotundo. *Bauh. Pin.* 110. Cochlearia major rotundifolia sive Batavorum. *Park.* 285. Cochlearia. *Raii. Hist. Spec.* 1. p. 822. *Synop.* 302. Nasturtium foliis radicalibus subrotundis, caulinis oblongis, subsinuatis. *Hal. Stirp. Helv.* No. 503. Cochlearia officinalis. *With. Bot. Arrang.* 677. *Flor. Dan.* t. 135.

Class Tetradynamia. *Ord.* Siliculosa. *L. Gen. Plant.* 803.

Ess. Gen. Ch. *Silicula* emarginata, turgida, scabra; volvulis gibbis, obtusis.

Sp. Ch. C. foliis radicalibus cordato-subrotundis; caulinis oblongis subsinuatis. *Caulis ramosus.*

THE root is perennial, fibrous, and usually produces several upright branched angular stems, about a span high; the radical leaves are heart or kidney-shaped, fleshy, succulent, and stand upon long footstalks; the stem-leaves alternate, rhomboidal, blunt, and dentated on each side; towards the top the leaves are

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sessile, or embracing the stem, but towards the bottom they are frequently upon short broad footstalks; the flowers are cruciform, and stand upon short peduncles, terminating the branches in thick clusters; the calyx consists of four leafits, which are oval, blunt, concave, gaping, deciduous, and whitish at the margin; the petals are four, white, oval, spreading, and twice the length of the calyx; the filaments are six, four long and two short, greenish, tapering, and crowned with yellow antheræ; it has no style, and the germen becomes a small roundish compressed pod, containing rough seeds. It is found on the mountains of Scotland, Cumberland, and Wales, but more commonly about the Sea shores: it flowers in April and May.

We have figured this plant from a specimen obtained from Mr. Curtis's botanic garden at Brompton, where it differs in no respect from the same plants growing in their native soil, a circumstance which induces many to cultivate Scurvy-grass in gardens for medical use. It has an unpleasant smell, and a warm acrid bitter taste. "Its active matter is extracted by maceration both in watery and in spirituous menstrua, and accompanies the juice obtained by expression. The most considerable part of it is of a very volatile kind; the peculiar penetrating pungency totally exhaling in the exsiccation of the herb, and in the evaporation of the liquors. Its principle virtue resides in an essential oil, separable in a very small quantity, by distillation with water."[a]—Scurvy-grass[b] is antiseptic,[c] attenuant, aperient, and diuretic, and is said to open obstructions of the viscera and remoter glands, without heating or irritating the system; it has been long considered as the most

[a] Lewis M. M. 242. "The oil is so ponderous as to sink in the aqueous fluid, but of great volatility, subtility, and penetration. One drop dissolved in spirit, or received on sugar, communicates to a quart of wine, or other liquors, the smell and taste of Scurvy-grass." Lewis l. c.

[b] This species is now preferred to all the other species of Cochlearia for its medical use.

[c] See the experiments of Sir John Pringle.

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effectual of all the antiscorbutic plants,* and its sensible qualities are sufficiently powerful to confirm this opinion. In the rheumatismus vagus, called by Sydenham Rheumatismus scorbuticus, consisting of wandering pains of long continuance, accompanied with fever, this plant, combined with Arum and wood-sorrel, is highly commended both by Sydenham and Lewis.[d]—A remarkably volatile and pungent spirit, prepared from this herb, and known by the name of *Spiritus antiscorbuticus s. mixtura simplex antiscorbutica Drawizii.*‡ *(Pharm. Wert.)* was found by Werlhof[e] to be a useful remedy in paralysis and other diseases requiring an active and powerful stimulant, given in the dose of thirty drops several times a day. But as an antiscorbutic, neither this, nor the conserve promises so much benefit as the fresh plant, eaten as sallad, or the expressed juice, as directed in the Pharmacopœias.

* We have testimony of its great use in scurvy, not only from physicians, but navigators, as Anson, Linschoten, Maartens, Egede, and others. And it has been justly noticed, that this plant grows most plentifully in those high latitudes, where the scurvy is most obnoxious: Forster found it in great abundance in the islands of the South Sea. In Islandia parant incolæ hanc herbam cum lacte acidulato vel ejus sero; condiunt eam etiam sale culinari in magnis doliis, & per hiemem servant. Cum oves in locis, ubi Cochlearia crescit, pascuntur, avide quidem illam edunt & valde pinguescunt, sed caro nauseoso sapore inficitur. Olafsen. *Reise durch Island.* T. 1. p. 257. Vide Berg. M. M. 557.

[d] Opera 278. M. M. 241.

‡ Fit ex spiritu tartari et spiritu cochleariæ, quibus vitriolum ad rubidinem calcinatum irroratur, succedente digestione et distillatione. Murray Ap. Med. vol. 2. p. 347.

[e] Obs. de febr. p. 145. Dr. Cullen observes, that "several foreign dispensatories have ordered it to be treated by distillation with spirit of wine, and have thereby obtained a volatile poignant spirit, that may prove a useful stimulus in several cases. It may probably be improved by a combination with the volatile acid of tartar, as in the spiritus antiscorbuticus *Drawitzii*, and in this state may be a useful stimulant in paralytic cases; it may also be employed as a diuretic, and in this way also be useful in scurvy." M. M. vol. 2. 165.

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CARDAMINE PRATENSIS. COMMON LADIES-SMOCK, Or, CUCKOW-FLOWER.

SYNONYMA. Cardamine. *Pharm. Lond. & Edin.* Nasturtium pratense magno flore. *Bauh. Pin.* 104. Nasturtium pratense majus seu Cardamine latifolia. *Park.* 825. Iberis Fuchsii seu Nasturtium pratense sylvestre. *J. B.* 2. 889. Cardamine. *Ger. Rati. Hist. Sp.* 2. p. 814. *Synop.* 299. Cardamine foliis pinnatis radicalibus subrotundis, caulinis linearibus. *Hal.* No. 473. Cardamine pratensis. *With. Bot. Arrang.* 688. *Relhan. Flor. Cant.* 255. *Curt. Flor. Lond.* α Floribus simplicibus. β Floribus plenis. *H. Kew.* Σισυμβριον ἑτερον. *Dioscor.*

Class Tetradynamia. *Ord.* Siliquosa. *L. Gen. Plant.* 812.

Ess. Gen. Ch. *Siliqua* elastice dissiliens valvulis revolutis. *Stigma* integrum. *Cal.* subhians.

Sp. Ch. C. foliis pinnatis: foliolis radicalibus subrotundis; caulinis lanceolatis.

THE root is perennial, branched, and sends off many long round fibres; the stalk is erect, round, smooth, sometimes branched towards the top, and rises about nine inches high: the leaves are pinnated, radical leaves frequently wanting, otherwise spreading in an orbicular shape, with roundish pinnæ, which are dentated, or cut into several irregular unequal angles; the leaves upon the stalk are erect, and consist of four or five pair of pinnæ, which are narrow, spear-shaped, concave, pointed, and the odd or terminal leafits are the largest: the flowers terminate the stem in a cluster or racemus, and stand upon smooth naked peduncles; the calyx is composed of four scaly leaves, which are oblong, obtuse, concave, deciduous, and alternately protuberant at the base; the corolla is

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cruciform, and of a purplish white colour; the petals are obversely veined, somewhat notched at the apex, and yellowish at the base; the filaments are six, four long and two short, invested at the bottom with four nectareous glands; the antheræ are small, oblong, and placed upright upon the summits of the filaments; there is no style; the germen is round, slender, about the length of the stamina, and becomes a long compressed pod of two valves, which, on opening, roll back in a spiral manner, and in the cells are contained many round seeds. It is common in meadows and moist pastures, producing its flowers in April and May.

This plant has the same sensible qualities as water-cress, though in an inferior degree to it, and indeed to most of that class of plants, called by Dr. Cullen siliquosæ, which comprehends both the orders of siliquosa and siliculosa of Linnæus, and the cruciform of Tournefort. It is the flower of the Cardamine which has a place in the Materia Medica of the British Pharmacopœias, upon the authority of Sir George Baker, who, in the year 1767, read a paper at the London College, recommending these flowers as an antispasmodic remedy,[a] which has since been published in the Medical Transactions.[b] In this account Sir George relates five cases[c] wherein the flores cardaminęs were successfully used; and in a P. S. to the second edition, he says, "Since the first edition of this volume, I have seen several instances of the good effects of flores cardamines in convulsive disorders." In Epilepsy, however,

[a] We find no account of the use of these flowers but by Dale, who says of the plant, "Calida & acris est, & nasturtii pollet viribus. Flos in convulsionibus laudatur ex MSS. D. Tancred Robinson, M. D." Pharmacol, 204.

[b] Medical Transactions, vol. 1. 442.

[c] Viz. two of chorea sancti Viti, one of spasmodic asthma, an hemiplegia accompanied with convulsions on the palsied side, and a case of remarkable spasmodic affections of the lower limbs; the two first were cured in less than a month; the two second were also happily removed: but in the last case the patient had experienced some relief from the flor. card. when she was seized with a fever which proved fatal. See l. c.

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this remedy has been generally found unsuccessful. Greeding, who tried it in a great number of cases, and in large doses, experienced but one instance of its good effects.[d] The dose of the powdered flowers is from half a dram to two drams.

[d] Ludwig. Advers. Medico-pract. Vol. 3. P. 3. p. 564.

SISYMBRIUM NASTURTIUM. WATER-CRESSES.

SYNONYMA. Nasturtium aquaticum. *Pharm. Lond. & Edinb.* Nasturtium aquaticum supinum. *Bauh. Pin. p.* 105. Nasturtium aquaticum, sive Cratevæ Sium. *Gerard. Emac. p.* 257. Sisymbrium Cardamine sive N. aquaticum. *J. Bauh. Hist. vol. 2. p.* 884. N. aquaticum vulgare. *Raii Hist.* 816. *Synop. p.* 300. *Park. Theat. p.* 1239. Sisymbrium foliis pinnatis, pinnis subrotundis, brevibus racemis. *Hal. Stirp. Helv. n.* 482. Sisymbrium Nasturtium. *Withering. Bot. Arrang. p.* 690. *Flor. Dan. t.* 690. *Curt. Flor. Lond.* Καρδαμον 8. Σιον *Dioscorid.*

Class Tetradynamia. *Ord.* Siliquosa. *Lin. Gen. Plant.* 813.

Ess. Gen. Ch. Siliqua dehiscens valvulis rectiusculis. *Calyx* patens. *Corolla* patens.

Sp. Ch. S. siliquis declinatis, foliis pinnatis: foliolis subcordatis.

THE root is biennial, long, creeping, and beset with several close tufts of long slender fibres: the stalks are thick, branched, and frequently rise above a foot high: the leaves are pinnated, and consist of two or three pair of irregular oblong pinnæ, terminated by an odd one, which is the largest: the flowers are disposed in short terminal spikes, and appear in June and July: the corolla consists of four petals, which at their extremities are roundish, spreading, and of a white colour: the calyx is of four

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oval leafits, which commonly fall off by the expansion of the flower: the stamina are six, four long and two short, and furnished with simple antheræ: the style is short, with an obtuse stigma, the germen is long, slender, and becomes a crooked pod, which contains small round seeds. It is a native of Britain, and grows commonly in brooks and stagnant waters.

"The leaves of the Water-cresses have a moderately pungent taste, emit a quick penetrating smell, like that of mustard-seed, but much weaker. Their pungent matter is taken up both by watery and spirituous menstrua, and accompanies the aqueous juice, which issues copiously upon expression: it is very volatile so as to arise,[a] in great part, in distillation, with rectified spirit, as well as with water, and almost totally to exhale in drying the leaves, or inspissating by the gentlest heat to the consistence of an extract, either the expressed juice, or the watery or spirituous tinctures. Both the inspissated juice, and the watery extract, discover to the taste a saline impregnation, and in keeping throw up crystalline efflorescences to the surface. On distilling considerable quantities of the herb with water, a small proportion of a subtile volatile very pungent oil is obtained."[b]

Water-cresses obtain a place in the Materia Medica for their antiscorbutic qualities, which have been long very generally acknowledged by physicians. They are also supposed to purify the blood and humours, and to open visceral obstructions;[c] they are nearly allied to scurvy-grass, but are more mild and pleasant, and for this reason are frequently eaten as sallad. In the pharmacopœias the juice of this plant is directed with that of scurvy-grass and Seville oranges; and Dr. Cullen has remarked, that the addition of acids renders the juices of the plantæ siliquosæ more certainly effectual, by determining them more powerfully to an acescent fermentation.[d]

[a] This volatile matter has been erroneously attributed to an alkaline or alkalescent quality of the plant.

[b] Lewis Mat. Med.

[c] Hoffman and Haller thought highly of its powers in this way. [d] Mat. Med.

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COCHLEARIA ARMORACIA. HORSE-RADISH.

SYNONYMA. Raphanus rusticanus. *Pharm. Lond. & Edinb. Bauh. Pin. p.* 96. *Gerard. Emac. p.* 241. *Park. Theat. p.* 860. *Raii Hist. p.* 818. *Synop. p.* 301. *Hist. Ox. iii. t* 7. *f.* 2. Nasturtium foliis radicalibus lanceolatis crenatis, caulinis incisis. *Hal. Stirp. Helv. n.* 504. Cochlearia Armoracia. *Huds. Ang. p.* 284. *Withering Bot. Arr. p.* 681. *Relhan Flor. Cant. p.* 249.

Class Tetradynamia. *Ord.* Siliculosa. *Lin. Gen. Plant.* 803.

Ess. Gen. Ch. *Silicula* emarginata, turgida, scabra: valvulis gibbis, obtusis.

Sp. Ch. C. foliis radicalibus lanceolatis crenatis; caulinis incisis.

THE root is perennial, long, tapering, white: the stalk is round, erect, branched, smooth, and rises two or three feet in height: the radical leaves are very large, lance-shaped, scolloped at the edges, and stand on strong footstalks; those of the stalk are much smaller, narrow, and often divided at the edges: the flowers are white, numerous, and terminate the branches in thick clusters: the calyx is composed of four leaves, which are egg-shaped, concave, opening, and deciduous: the corolla consists of four inversely egg-shaped petals, which expand in opposite directions, and form a cross; they are twice the size of the calyx, and are inserted by narrow claws: the filaments are six, tapering, the two opposite ones shorter than the other four, and all furnished with blunt compressed antheræ: the germen is heart shaped, supporting a simple style, which is short, permanent, and furnished with an obtuse stigma: the capsule is heart-shaped, turgid, slightly notched at the end, and furnished with the style; it is divided into two cells, each containing about four seeds. It is found growing wild in many parts of England, particularly about rubbish and the sides of ditches; but it is commonly cultivated in gardens, and flowers in May.

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The root of this plant, which has long been received into the Materia Medica, is also well known at our tables; "it affects the organs both of taste and smell with a quick penetrating pungency; nevertheless it contains in certain vessels a sweet juice, which sometimes exudes in little drops upon the surface. Its pungent matter is of a very volatile kind, being totally dissipated in drying, and carried off in evaporation or distillation by water and rectified spirit: as the pungency exhales, the sweet matter of the root becomes more sensible, though this also is in a great measure dissipated or destroyed. It impregnates both water and spirit, by infusion or distillation, very richly with its active matter: in distillation with water it yields a small quantity of essential oil, exceedingly penetrating and pungent."[a]

Dr. Cullen having, in our opinion, mentioned every thing necessary to be known respecting the medical virtues of Horse-radish, we shall here transcribe all that the ingenious Professor has written on this subject:

"The root of this only is employed, and it affords one of the "most acrid substances of this order, (siliquosa) and therefore "proves a powerful stimulant, whether externally or internally "employed. Externally it readily inflames the skin, and proves a "rubifacient that may be employed with advantage in palsy and "rheumatism; and if its application be long continued it pro-"duces blisters."—"Taken internally, I have said in what manner "its stimulant power in the fauces may be managed for the cure "of hoarseness.[b] Received into the stomach, it stimulates this, "and promotes digestion, and therefore is properly employed as a "condiment with our animal food. If it be infused in water, and

[a] *Lewis, M. M. p.* 534.

[b] The Doctor here refers to the article Erysimum, the juice of which mixed with an equal part of honey or sugar, is strongly recommended for the cure of hoarseness which proceeds from an interrupted secretion of mucus, and which stimulants of the acrid kind are found most efficacious in restoring. When the Erysimum was not at hand, the Dr. substituted a syrup of Horse-radish. He says, "I have found

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" a portion of this infusion be taken with a large draught of warm " water, it readily proves emetic, and may either be employed by " itself to excite vomiting, or to assist the operation of other " emetics. Infused in water, and taken into the stomach, it proves " stimulant to the nervous system, and is thereby useful in palsy; " and if employed in large quantity it proves heating to the whole " body: and hereby it proves often useful in chronic rheumatism, " whether arising from scurvy, or other causes. Burgius[c] has " given us a particular method of exhibiting this root, which is " by cutting it down, without bruising, into very small pieces; " and these, if swallowed without chewing, may be taken down " in large quantity, to that of a table spoonful: and the author " alleges, that in this way, taken every morning for a month " together, this root has been extremely useful in arthritic cases; " which however I suppose to have been of the rheumatic kind. " It would seem that in this manner employed, analagous to the " use of unbruised mustard-seed, it gives out in the stomach its " subtle volatile parts, that stimulate considerably without in- " flaming. The matter of Horse-radish, like the same matter of " the other siliquose plants, carried into the blood vessels, passes " readily into the kidneys, and proves a powerful diuretic, and is " therefore useful in dropsy; and we need not say, that in this " manner, by promoting both urine and perspiration, it has been " long known as one of the most powerful antiscorbutics."[d]

that one dram of the root, fresh, scraped down, was enough for four ounces of water, to be infused in a close vessel for two hours, and made into a syrup, with double its weight of sugar. A tea-spoonful or two of this syrup, swallowed leisurely, or at least repeated two or three times, we have found often very suddenly effectual in relieving hoarseness." *Mat. Med. v. ii. p.* 167.

[c] See *Berg. Mat. Med. p.* 559. where he adds, " Agit secure, ventriculum vix calefacit, nisi sub fine curæ. Multos scorbuticos hoc etiam regimine perquam levatos vidi."

[d] *Mat. Med. vol. ii. p.* 169.

We are told by Dr. Withering, that an infusion of Horse-radish in milk makes one of the safest and best cosmetics. *l. c.*

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SINAPIS NIGRA. COMMON BLACK MUSTARD.

SYNONYMA. Sinapi. *Pharm. Lond. & Edinb.* Sinapi rapi folio. *Bauh. Pin. p.* 99. Sinapi sativum alterum. *Gerard. Emac. p.* 244. Sinapi sativum rapi folio. *Park. Theat. p.* 831. Sinapi sativum secundum. *Raii Hist. p.* 803. *Synop. p.* 295. Sinapi siliquis tetragonis glabris. *Hall. Stirp. Helv. n.* 465. Sinapis nigra. *Huds. Flor. Ang. p.* 297. *Lightf. Flor. Scot. p.* 361. *Withering Bot. Arrang. p.* 713.

Class Tetradynamia. *Ord.* Siliquosa. *Lin. Gen. Plant.* 821.

Ess. Gen. Ch. Cal. patens. *Cor.* ungues recti. *Glandula* inter stamina breviora et pistillum, interque longiora et calycem.

Sp. Ch. S. siliquis glabris racemo appressis.

THE root is annual: the stem erect, smooth towards the top, channelled at the bottom, about three feet in height, divided and subdivided in numerous distant spreading branches: the leaves are variously shaped: those near the root are large, irregularly heart-shaped, and pinnatifid or lobed at the base; those on the upper branches are narrow, and more entire: the flowers are yellow, and terminate the branches in close spikes: the calyx consists of four expanding strap-shaped deciduous leaves: the corolla is composed of four petals, which at their extremities are roundish, flat, spreading, and stand in opposite directions upon upright narrow claws: the filaments are six, four long and two short; they are all erect, tapering, and furnished with simple antheræ: the germen is cylindrical, terminated by a style, which is crowned with a knobbed stigma: a small gland is placed between each of the short filaments and the germen, and between each pair of the long filaments and the calyx, the seed vessels or pods stand nearly parallel with the

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branches, and are long, smooth, protuberant at the base, two-celled, two-valved, and contain many globular shining dark seeds. It is common in corn fields, and banks of ditches; but it is cultivated for use, and flowers in June.

The seeds of this species of Mustard, which are directed by the London College, and those of the S. alba, which are preferred by that of Edinburgh, manifest no remarkable difference to the taste, nor in their general effects, and therefore answer equally well for the uses of the table, and for the purposes of medicine. They have an acrid pungent taste, and when bruised this pungency shews its volatility by powerfully affecting the organs of smell; they readily impart these qualities to aqueous liquors, and by distillation with water yield an essential oil of great acrimony. To rectified spirit these seeds give out very little either of their smell or taste. Subjected to the press, they yield a considerable quantity of mild insipid oil, which is as free from acrimony as that of almonds.

By writers on the Materia Medica, Mustard is considered to promote appetite, assist digestion, attenuate viscid juices, and by stimulating the fibres, to prove a general remedy in paralytic and rheumatic affections. Joined to its stimulant qualities, it frequently, if taken in considerable quantity, opens the body,[a] and increases the urinary discharge, and hence has been found useful in dropsical complaints.[b] In its medicinal character it is nearly allied to the last mentioned plant, and, like all the other Siliquosæ, has been recommended as an antiscorbutic;[c] though we are told

[a] As much of the unbruised seeds as an ordinary table-spoon will contain does not prove heating to the stomach, but stimulates the intestinal canal, and commonly proves laxative. Cullen, *M. M. vol. ii. p.* 171.

[b] See Mead and others.

[c] "Semen Sinapeos in mortario tritum & cum vino albo mixtum, multas centurias Scorbuticorum & languentium hominum in obsidione Rupellensi sanitati restituit. Plerique enim obsessorum & urbe inclusorum fame & inedia pressi, multa sordida & quæ natura abhorret esitare coacti, respirandi difficultatem, gingivarum putredi-

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by Haller, that the use of Mustard disposes the humours to putrescency;[d] an opinion which he was probably led to entertain from a supposition that it contained volatile alkali: for it is well known that some of these pungent plants, when in a state of putrefaction, give out this alkali by distillation, and hence have been termed alkalescent plants; but the fermentation of these vegetable substances may be so directed as to be of the acescent kind,[e] and the alkali obtained from them seems not to have existed in the vegetable in a separate state.† The great pungency of these plants is not therefore to be ascribed to the volatile alkali, but to the essential oil which they contain. Bergius informs us, that he found Mustard of great efficacy in curing vernal intermittents; for this purpose he directed a spoonful of the whole seeds to be taken three or four times a day, during the apyrexia; and when the disease was obstinate, he added flower of Mustard to the bark.[f] Externally these seeds are frequently used as a stimulant or sinapism.[g] Mustard seed may be most conveniently given entire or unbruised, and to the quantity of a spoonful or half an ounce for a dose.

nem, dentium nigritiem & vacillationem, aliaque Scorbuti symptomata contraxerant, unde multi moriebantur, donec tandem Sinapi in fossis circa urbem copiosè inventum, & quo dictum est modo adhibitum omnes liberavit." Vide *Raii Hist. p.* 803.

[d] "Ut denique dicam quæ sentio, & ipse vidi, frequentem Sinapi usum credo humores ad naturam putredinosam disponere, morbos que acutos redere perniciosiores, si in mustardæ amantes hominens inciderint. Neque ventriculo mustardam prodesse putem, quæ vix ipsa coquatur, & plusculis horis ructus putridos cieat." *Hist. Stirp. Helv. n.* 465.

[e] *Cullen, l. c.* [f] *Mat. Med. vol. ii. p.* 581.

[g] "The fresh powder of Mustard shews little pungency and much bitterness; but when it has been moistened with vinegar, and kept for a day, the essential oil is evolved, and it becomes considerably more acrid, as is well known to those who prepare Mustard for the table; a circumstance which should be attended to when designed for external use." *Cullen, l. c.*

† We have good reason to suppose, that Boerhaave was mistaken in asserting, "Semen optimum Sinapis, solum contritum affuso acerrimo aceto effervescere memini," Chem. vol. ii. p. 142. as it has since been denied by the most respectable authorities.

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ERYSIMUM OFFICINALE. HEDGE MUSTARD.

SYNONYMA. Erysimum. *Pharm. Geoff. iii.* 444. *Dale.* 203. *Alston. ii.* 135. *Lewis.* 289. *Cullen. ii.* 166. *Edinb. New Disp.* 186. *Murray. ii.* 315. *Bergius.* 561. *Hall.* 478. Erysimum vulgare. *Bauh. Pin.* 100. Erysimum Dioscorides Lobelii. *Ger. Emac.* 254. Irio sive Erysimum vulgare. *Park. Theat.* 833. Eruca siliqua cauli appressa, Erysimum dicta. *Ray. Hist.* 810. *Synop.* 298. Erysimum officinale. *Hudson. Ang.* 286. *Wither. Bot. Arr.* 695. *Ic. Flor. Dan.* 560. *Curt. Flor. Lond.*

Tetradynamia Siliquosa. *Lin. Gen. Plant.* 814.

Gen. Ch. *Siliqua* columnaris, exactè tetraëdra. *Cal.* clausus.

Sp. Ch. E. siliquis spicæ adpressis, foliis runcinatis.

ROOT annual, tapering, furnished with long fibres. Stalk from one to two feet in height, erect, round, branched, hairy. Leaves on footstalks, rough, downy, pinnatifid segments, opposite, ovate, toothed, terminal one the largest. Flowers yellow, small, placed in long racemi or spikes. Calyx of four leafits, which are ovate, narrow, blunt, hairy. Corolla composed of four petals, placed oppositely, inversely ovate, standing upon long claws. Filaments six, tapering, two of which are shorter than the others, and having at the base two nectarious glands. Antheræ heart-shaped. Germen cylindrical, striated. Stigma roundish, compressed, notched. Pods nearly conical, obscurely quadrangular, hairy, pressed to the stalk. Seeds of a dingy yellow colour, obliquely truncated at each end.

It is common on dry banks and waste places, and flowers from June till September.

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The taste of this herb is somewhat acrid, especially the tops of the flower spikes. Its seeds are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker.

The Erysimum is said to be attenuant, expectorant, and diuretic, and has been strongly recommended in chronical coughs and hoarseness. Rondeletius informs us, that the last mentioned complaint, occasioned by loud speaking, was cured by this plant in three days. Other testimonies of its good effects in this disorder are recorded by writers on the Materia Medica, of whom we may mention Dr. Cullen, who, for this purpose recommends the juice of the Erysimum to be mixed with an equal quantity of honey or sugar. In this way also it is said to be a useful remedy in ulcerations of the mouth and throat.

In most cases of disease, perhaps the seeds of Erysimum, as more pungent, should be preferred to its leaves.

ERYSIMUM ALLIARIA. SAUCE-ALONE, Or, STINKING HEDGE-MUSTARD.

SYNONYMA. Alliaria. *Pharm. Geoff. iii.* 58. *Dale.* 200. *Alston. ii.* 79. *Lewis.* 31. *Edinb. New Dispens.* 120. *Murray. ii.* 317. *Bergius.* 564. *Bauh. Pin.* 110. *Gerard. Emac.* 794. *Park. Theat.* 112. *Ray. Hist.* 792. *Synop.* 293. *Hall. Hist. Stirp. Helv.* 480. Erysimum Alliaria. *Huds. Ang.* 268. *With. Bot. Arr.* 696. *Ic. Curt. Flor. Lond.* 144.

Tetradynamia Siliquosa. *Lin. Gen. Plant.* 814.

Gen. Ch. Siliqua columnaris, exactè tetraëdra. *Cal.* clausus.

Sp. Ch. E. foliis cordatis.

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ROOT biennial, whitish, tapering, fibrous. Stalk erect, two or three feet in height, round, smooth, channelled, sparingly branched. Leaves alternate, heart-shaped, on footstalks, unequally toothed, veiny; on the upper part of the stalk they are pointed, and narrower; at the root kidney-shaped, and standing on long footstalks. Flowers white, in terminal spikes. Calyx of four leafits, which are ovate, concave, of a pale green. Corolla consists of four petals, which are inversely ovate, and placed in opposite directions upon erect claws. Filaments six, tapering, four of which are long and erect, two short and bent inwards. Antheræ yellow, oblong, incumbent. Germen long, quadrangular. Style very short. Stigma roundish. Pod two inches long, obscurely quadrangular, marked with a prominent line between each angle; the cavity divided into two cells, containing oblong shining brown seeds, which appear obliquely truncated at each end.

It is common on hedge banks, and flowers in May and June.

The leaves of this plant have a moderate acrimony, and a strong flavour, resembling that of garlic or onions; they give the same kind of taint to the breath as those roots, and have been used for the same culinary purposes: hence the name Alliaria. On drying, however, their sensible qualities are considerably diminished, or entirely lost.

"The juice, expressed from the fresh leaves, is strongly impregnated with their active matter, but loses the greatest part of it on being inspissated to an extract with the gentlest warmth: in its liquid state, duly secured from the air, it may be kept uninjured for many months. On distilling the fresh herb with water, there arises a small portion of essential oil, which tastes and smells exceeding strongly."[a]

The medicinal character of Alliaria is that of a powerful diaphoretic, diuretic, and antiscorbutic; and as partaking of the qualities of garlick it has been deemed useful as an expectorant and deobstruent, in humoral asthmas, and other cases of dyspnœa. It has

[a] *Lewis. l. c.*

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also been much esteemed as an external application, to promote suppuration; and Boerhaave informs us, that he cured a gangrene of the leg, arising from a neglected fracture and contusion, by applying the bruised leaves of Alliaria with wine.[b]

It has been thought unavailing to publish figures of the remaining medical plants of this order, not only because they appear unimportant, but because they are nearly allied to each other both in their medicinal and botanical characters, and are sufficiently exemplified in this work.—See Cochlearia, Sinapi, Cardamine, Raphanus rusticanus, Nasturtium aquaticum.

[b] *Hist. Plant. Lugd. Bat.* 437.

Those omitted are

Lin. Name.	Officinal.	English.
Sisymbrium Sophia	Sophia chrurgorum	Flix-weed
Erysimum Barbaræa	Barbaræa	Winter Hedge-mustard
Raphanus sativus	Raphanus	Garden-Radish
Brassica oleracea	Brassica	Cabbage
.....Rapa	Rapa	Turnep
.....Napus	Nepus	Rape, or Wild-Cabbage
.....Eruca	Eruca	Garden-Rocket
Cheiranthus Cheiri	Cheiri	Wall-Flower
Lepidium sativum	Nasturtium hortense	Garden-Cress
Thlaspi arvense	Thlaspi	Bastard-Cress
.....Bursa pastoris	Bursa pastoras	Shepherd's-Purse

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ORD. XXIV. PAPILIONACEÆ.

(From *Papilio*, a Butterfly)

Plants whose flowers somewhat resemble a Butterfly. This Order includes all the leguminous plants.

ASTRAGALUS TRAGACANTHA. GOAT's THORN MILK VETCH.

Ex hac planta exudat Gummi Tragacantha. *Pharm. Lond.* & *Edinb.*

SYNONYMA. Astragalus aculeatus fruticosus Massiliensis. *Pluk. Alm. p.* 60. Tragacantha. *Bauh. Pin. p.* 388. Tragacantha, sive spina hirci. *Gerard. Emac. p.* 1328. Tragacantha vera. *Park. Theat. p.* 995. Tragacantha Massiliensis. *J. Bauh. Hist. i. p.* 407. *Raii Hist. p.* 933. *Du Hamel, Traité des Arbres, t. ii. p.* 348. *Tournefort, Voyage du Levant, t. i. p.* 21.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 692.

Ess. Gen. Ch. *Legumen* biloculare, gibbum.

Sp. Ch. A. caudice arborescente, petiolis spinescentibus.

THE root is perennial, long, tapering, and fibrous: the stems are shrubby, short, thick, branched, procumbent, clothed with brown rigid fibres, and beset with long sharp spines: the leaves are pinnated, consisting of about eight pairs of small oblong pinnulæ, or leafits, which are attached to a strong spinous persistent

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footstalk, or midrib: the flowers are large, of a pale yellow colour, and terminate the branches in close clusters: the calyx is tubular, and divided at the rim into five sharp teeth: the corolla is of the papilionaceous kind, consisting of a *vexillum* or upper petal, which is longer than the others, straight, blunt, reflected at the sides, and notched at the end; two *alæ* or lateral petals, which are of an oblong form, and a *carina* or keel-shaped under-petal: the filaments are ten, nine of which are united, and one separate: the antheræ are small and round: the germen is long and roundish: the style tapering, and furnished with a blunt stigma: the seeds are kidney-shaped, and contained in a two-celled pod. It flowers from May till July.

This plant was cultivated in England in the time of Parkinson, (1640): it is a native of Asiatic Turkey, and the Southern parts of Europe, particularly of Italy, Sicily, and Crete. Tournefort discovered it growing plentifully about Mount Ida,[a] where he examined the plant in the month of July, when both the bark and wood were found distended with gum Tragacanth, which by the intensity of the sun's heat forces its way through the bark, and concretes into irregular lumps, or long vermicular pieces, bent into a variety of shapes, and larger or smaller in proportion to its quantity, and the size of the wounds from whence it issues. This gum is imported here chiefly from Turkey: it varies in its colour; but that most esteemed it white, semitransparent, dry, yet somewhat soft to the touch.

M. de la Billardière's late account[b] of the production of this gum differs in some respects from that of Tournefort's. He says, that he visited Mount Lebanon in August, 1786, the season when the gum Tragacanth is collected: he then found the species of Astragalus which afforded it, to be different from that figured and

[a] *Voyage, T. i. p. 21.*

[b] See Description d'une nouvelle espece d'astragale, qui produit au Liban la gomme adragant, *Hist. de l'Acad. R. des Scien. du 16 Dec.* 1788. *et Rozier, Obs. sur la physique, pour Janvier,* 1790.

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described by Tournefort, and consequently not the Tragacantha of Linnæus.[c] He also contradicts the opinion of Tournefort, who attributes the flowing of the gum to the contraction of the fibres of the bark, occasioned by the intensity of the solar heat; observing that it is only during the night, or when the sun is obscured by clouds, that the gum issues from the plant, and that the same has been remarked at Crete.

" Gum Tragacanth differs from all other known gums, in giving a thick consistence to a much larger quantity of water;* and in being much more difficultly dissoluble, or rather dissolving only imperfectly.[d] Put into water, it slowly imbibes a great quantity of the liquid, swells into a large volume, and forms a soft but not fluid mucilage: if more water be added, a fluid solution may be obtained by agitation, but the liquor looks turbid and wheyish; and on standing the mucilage subsides, the limpid water on the surface retaining little of the gum:"† nor does the mixture of gum arabic promote their union.

The demulcent qualities of this gum are to be considered as similar to those of gum arabic:[e] it is seldom given alone, but frequently in combination with more powerful medicines, especially in the form of troches, for which it is peculiarly well adapted. It gives name to an officinal powder, and is an ingredient in the compound powder of ceruss.

[c] He makes the following distinctions: The stem of the Cretan Astragalus is blackish, that of Lebanon is yellow; the leaves of the first are downy, of the second they are smooth. The flowers of one are red, those of the other are of a pale yellow. From hence he infers that there are various species of Astragalus which produce gum tragacanth.

* Multo fortius est hoc gummi, quam G. arabicum, sc. ut 1 ad 24. Etenim dum G. Tragac. scrup. 8 aquæ puræ libr. 2 in consistentiam Syrupi redigunt, requiruntur G. Arab. unc. 8 ad eundem effectum præstandum. *Berg. M. M. p.* 622.

[d] Rutty asserts, that in five or six hours it will dissolve in cold water. *Observ. on the Lond. & Edinb. Dispen. p.* 179. † *Lewis's M. M.*

[e] See p. 189. Bergius says, *Virtus:* demulcens, obtundens, incrassans. *Usus:* Dysenteria, Diarrhœa, Stranguria. *l. c. p.* 621.

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SPARTIUM SCOPARIUM. COMMON BROOM.

SYNONYMA. Genista. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1311. Genista angulosa & scoparia. *Bauh. Pin. p.* 395. Genista vulgaris & scoparia. *Park. Theat. p.* 228. Genista angulosa trifolia. *J. Bauh. Hist. vol. i. p.* 388. *Ray Hist. p.* 1723. *Synop. p.* 474. Spartium foliis inferioribus ternatis hirsutis superioribus simplicibus. *Hall. Stirp. Helv. n.* 354. Spartium scoparium. *Hudson. Flor. Ang. p.* 310. *Withering. Bot. Arrang. p.* 756. *Flor. Dan. p.* 313.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 858.

Ess. Gen. Ch. *Stigma* longitudinale, supra villosum. *Filamenta* germini adhærentia. *Cal.* deorsum productus.

Sp. Ch. S. foliis ternatis solitariisque, ramis inermibus angulatis.

THE root is woody, tough, and extends to a considerable length: the stalk is shrubby, branched, and covered with light brown bark: it usually rises from four to six feet in height, and sends forth a great number of slender angular green shoots: the leaves are small, downy, divided into three oval leafits, and standing upon footstalks of different lengths: the flowers are large, numerous, of the papilionaceous shape, and of a bright yellow colour: the calyx is tubular, divided transversely at the margin into two lips, of these the uppermost is entire, the undermost slightly notched: the corolla is composed of five petals: the superior, or standard petal, is inversely heart-shaped, and bent backwards: the two lateral petals, or wings, are oblong, convex, less than the standard, and united to the filaments: the keel is composed of the two undermost petals, which are connected together by soft hairs at the margin, so as to appear keel-shaped: the filaments are ten, nine of which are united

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at the base, of unequal length, curled inwards, and furnished with oblong antheræ: the germen is flat, oblong, hairy, and supports a slender style, with an oblong stigma: the seeds are round, or somewhat kidney-shaped, and contained in a long cylindrical pod, like that of the garden pea. It is common in dry sandy pastures, and flowers in April and May.

Linnæus, Bergius,[a] and several other writers, seem to have confounded the medicinal qualities of this plant with those of Genista tinctoria: the officinal Genista is however by the British Pharmacopœias considered to be the common Broom, of which the tops and seeds are directed for use. The tops and leaves of Broom have a nauseous bitter taste, which they impart by infusion both to water and spirit. They are commended for their purgative and diuretic qualities, and have therefore been successfully employed in hydropic cases, of which particular instances are related by Mead[b] and others, to which we may add the following from Dr. Cullen: "Genista, though very little in use, I have inserted in my catalogue (of cathartics) from my own experience of it. I found it first in use among our common people; but I have since prescribed it to some of my patients in the manner following: I order half an ounce of fresh Broom tops to be boiled in a pound of water till one half of this is consumed, and of this decoction I give two table-spoonfuls every hour till it operates by stool, or till the whole is taken. It seldom fails to operate both by stool and urine, and by repeating this exhibition every day, or every second day, some dropsies have been cured."[c] The ashes of Broom have also been much used in dropsies, and principally on the authority of

[a] They both say of G. tinctoria, "*Virtus:* pellens, purgans, *Usus:* Hydrops;" while the common broom is passed unnoticed. See *M. M. Lin. p.* 170. *Berg. p.* 598.

[b] *Mon. & Præc. p.* 138. where we are told that a patient by taking half a pint of a decoction of green Broom tops, with a spoonful of whole mustard seed, every morning and evening, was cured, after being tapped three times, and trying the usual remedies given in dropsies. See also *Möhring Act. N. C. vol. v. p.* 32.

[c] *Mat. Med. vol. ii. p.* 534.

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Sydenham,[d] whose account of their good effects has been since confirmed by the testimony of Dr. Monro,[e] and other writers.[f] We may observe however that the efficacy of this medicine must depend entirely upon the alkaline salt, and not in the least upon the vegetable from which it is obtained. The seeds and flowers of Broom are said to be emetic and cathartic; but the evidence upon which this assertion rests is not wholly to be relied upon, as the former when roasted have been used as a substitute for coffee, and the latter employed as a pickle.[g]

[d] *Opera, p.* 497.

[e] He gave a dram divided into three doses every day. *On Dropsy, p.* 64.

[f] See Odhelius in *Vet. Acad. Handl.* 1762. *p.* 82.

[g] Purgat genistæ semen non minùs potenter fere quàm Spartium aut Helleborus, &c. Idem confirmat Lobelius, semine Genistæ scopariæ vomitum non secus ac Spartio Diosc. sæpius ℥ii decocto propinato citra magnam contentionem se movisse scribens. Verùm flores recèns decerptos sæpissimè quamplurimos & per se acetariis inditos vorat, (inquit) plebecula Arverna & Aquitaniæ maximâ copiâ innocuos non modò sed etiam admodum gustui suaves; nec quicquam vomitionis nauseæve, aut commotionis movere solent. Quin apud Brabantos, & Anglos non minùs, gemmantes dum adhuc virides sunt condiuntur sale & aceto flores, menisque inferuntur, Capparum Olearumve pari commendatione. *Ray l. c.* Ray also informs us, that from the MS. of Dr. Hulse, he learned that the flor. genist. given in the form of electuary, with honey of roses, were found of great efficacy in scrophulous affections.

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GEOFFROYA INERMIS. SMOOTH GEOFFROYA, Or, BASTARD CABBAGE-TREE.

SYNONYMA. Geoffræa. *Pharm. Edinb.* Geoffræa jamaicencis inermis. *Wright's Description and Use of the Cabbage-bark Tree of Jamaica. Phil. Trans. vol.* 67. *p.* 507. Geoffroya inermis, foliolis lanceolatis. *Swartz. Prodr.* 106.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 876.

Ess. Gen. Ch. Cal. 5-fidus. *Drupa* ovata. *Nucleus* compressus.

Sp. Ch. G. inermis, foliolis lanceolatis. *Swartz. l. c.*

THIS tree rises to a considerable height, and towards the top sends off several branches: the wood is hard enough to admit of being polished: the external bark is smooth and grey, internally it is black and furrowed: the leaves are pinnated, consisting of several pairs of pinnæ, which are lance-shaped, pointed, veined, smooth, standing in pairs upon short footstalks, but with an odd one at the end: the flowers appear in clusters upon large branched spikes: the calyx is bell-shaped, and divided into five short obtuse segments: the corolla is of the papilionaceous kind, of a pale rose colour, consisting of a *vexillum,* which is roundish, concave, and notched at the apex; two *alæ,* which are oblong, obtuse, concave, and somewhat shorter than the vexillum, and an obtuse divided *carina:* the filaments are ten, nine of which are united at the base: the antheræ are simple, and roundish: the germen is oval, and furnished with a tapering curved style, which is terminated by a hooked stigma: the fruit is pulpy, resembling a small plum, and containing a hard nut or seed, separated into two valves, and marked on each side with a longitudinal furrow.

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This tree is a native of Jamaica, where it is distinguished by the name of Cabbage-bark tree, or Worm-bark tree: the bark, which has a mucilaginous and sweetish taste, and a disagreeable smell, was first noticed as a vermifuge by Mr. Peter Duguid.[a] Since that time several accounts of its anthelmintic virtues have been given in the Medical Commentaries by different authors: but Dr. Wright, who resided a long time at Jamaica, has communicated the fullest information concerning this tree, both in respect to its medical and botanical characters. Linnæus enumerates only one species of this genus, which is called after Geoffroy, viz. G. spinosa; and, in contradistinction to this, Dr. Wright, on discovering that the plant here figured belonged to the same family, and was destitute of spines, very properly gave it the trivial name of *inermis*, and it has since been recognized and confirmed in this name upon the authorities of Swartz and Aiton, though, it is not yet admitted into any of the editions of the Systema Vegetabilium of Linnæus. This species was first introduced into this country by Messrs. Kennedy and Lee, who cultivated it at Hammersmith about the year 1778. According to Dr. Wright, the bark of this tree is powerfully medicinal, and its anthelmintic effects have been established at Jamaica by long expèrience.

It may be given in different forms, as in decoction, syrup, powder, and extract; and the manner of preparing and exhibiting these are thus stated by Dr. Wright:

" The decoction. Take fresh-dried or well-preserved cabbage-bark, one ounce. Boil it in a quart of water, over a slow fire, till the water is of an amber colour, or rather of deep coloured

[a] This author thinks that the inhabitants of Jamaica are more subject to worms, " on account of their *sweet viscid bread-kind*, to wit, plaintains, yams, bananos, sweetish potatoes, &c." and considers it particularly fortunate, that the island supplies them with this bark, which " appears to be the most powerful vermifuge yet known, for it frequently brings away as many worms by stool as would fill a large hat." See *Essays and Observations Physical and Literary, vol. ii. p. 264.*

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Madeira wine; strain it off, sweeten it with sugar, and let it be used immediately, as it does not keep many days.

" Syrup of Cabbage-bark. To any quantity of the above decoction add a double portion of sugar, and make a syrup. This will retain its virtues for years.

" The extract of Cabbage-bark is made by evaporating the strong decoction in *balneo mariæ* to the proper consistence; it must be continually stirred, as otherwise the resinous part rises to the top, and on this probably its efficacy depends.

" The powder of well-dried bark is easily made, and looks like jallap, though not of equal specific gravity.

" This bark, like most other powerful anthelmintics, has a narcotic effect; and on this account it is always proper to begin with small doses, which may be gradually increased till a nausea is excited, when the dose for that patient is ascertained. But by frequent use we can in common determine the dose, though we chuse to err rather on the safe side.

" A strong healthy grown person may, at first, take four table spoonfuls of the decoction or syrup, three grains of the extract, or thirty grains of the powder for a dose.

" A youth, three table spoonfuls of the decoction or syrup, two grains of extract, or twenty grains of powder.

" A person of ten years of age, two table spoonfuls of the decoction or syrup, one grain and a half of extract, or fifteen grains of the powder.

" Children of two or three years old, a table spoonful of the decoction or syrup, one grain of extract, or ten grains of the powder. Children of a year old, half the quantity.

" These may be increased, as above observed, till a nausea is excited, which will depend on the strength, sex, and habit of body of the patient.

" Care must be taken that cold water be not drank during the operation of this medicine, as it is in this case apt to occasion

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sickness, vomiting, fever, and delirium. When this happens, or when an over large dose has been given, the stomach must be washed with warm water: the patient must speedily be purged with Castor-oil, and use plenty of lime-juice beverage for common drink; vegetable acid being a powerful antidote in this case, as well as in an over dose of opium.

" The decoction is what is mostly given here, and seldom fails to perform every thing that can be expected from an anthelmintic medicine, by destroying worms in the intestines, and bringing them away in great quantities. By frequent use, however, these animals become familiarized, and we find it necessary to intermit it, or have recourse to others of inferior merit.

" The writers of the Edinburgh Medical Commentaries take notice, that the decoction of cabbage-bark always excites vomiting. We find no such effect from it here, and may account for it by their receiving it in a mouldy state. A syrup, therefore, is given there with better effect. They observe also that it has a diuretic virtue, which we have not taken notice of here.

" This bark purges pretty briskly, especially in powder, thirty or forty grains working as well as jallap by stool; but in this way it does not seem to kill worms so well as in decoction.

" Five grains of the extract made a strong man sick, and purged him several times; but, by frequent use, he took ten grains to produce at length the same effect.

" It must not be concealed that fatal accidents have happened from the imprudent administration of this bark, chiefly from over-dosing the medicine. But this cannot detract from the merit of the cabbage-bark, since the best medicines, when abused, become deleterious; and even our best aliments, in too great quantity, prove destructive. Upon the whole, the cabbage-bark is a most valuable remedy, and I hope will become an addition to the *Materia Medica.*"

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GLYCYRRHIZA GLABRA. COMMON LIQUORICE.

SYNONYMA. Glycyrrhiza. *Pharm. Lond. & Edinb.* Glycyrrhiza vulgaris. *Gerard. Emac. p.* 1302. *Raii. Hist. p.* 910. *Synop. p.* 324. Glycyrrhiza siliquosa vulgaris. *Park. Theat. p.* 1098. Glycyrrhiza radice repente, &c. *J. Bauh. Hist. ii. p.* 328. Glycyrrhiza siliquosa vel germanica. *Bauh. Pin. p.* 352. *Hist. Oxon. v. ii. p.* 89. Conf. Pallas. *Reise durchs Russ. Reich. T. i. p.* 498. *n.* 120. Γλυκυρριζα et Γλυκυρριξα *Græcorum.*

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 882.

Ess. Gen. Ch. Cal. 2-labiatus: $\frac{1}{3}$. *Legumen* ovatum, compressum.

Sp. Ch. G. leguminibus glabris, stipulis nullis, foliolo impari petiolato.

THE root is perennial, long, round, succulent, tough, running to a considerable extent, externally brown, internally yellow, and of a sweet taste: the stalks are erect, strong, herbaceous, striated, garnished with few branches, and usually rise four or five feet in height: the leaves are pinnated, alternate, composed of several pairs of pinnæ, with an odd one at the end: the leafits are ovate, blunt, veined, of a pale green colour, and stand upon short footstalks: the flowers are of the papilionaceous kind, of a purplish colour, and appear in long spikes arising from the axillæ of the leaves: the calyx is persistent, tubular, cut obliquely into two lips, and divided into narrow pointed segments: the corolla consists of a *vexillum*, which is erect, lance-shaped, concave, obtuse; two *alæ*, which are oblong, obtuse, and larger than the *carina*, which is about the length of the calyx: the filaments are ten, nine of which are joined at the base, and all furnished with simple roundish antheræ: the germen is shorter than the calyx, and is

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supplied with a tapering style, terminated by a blunt stigma: the seeds are small, kidney-shaped, and produced in a pod, which is oblong, compressed, pointed, one-celled. The flowers appear in August.

Liquorice is a native of the South of Europe: it appears to have been cultivated in Britain in the time of Turner.[a] The chief places at which it has long been propagated for sale, are Pontefract in Yorkshire, Worksop in Nottinghamshire, and Godalming in Surry; but it is now planted by many gardeners in the vicinity of London, by whom the metropolis is supplied with the roots, which, after three years growth, are dug up for use, and are found to be in no respects inferior for medical purposes to those produced in their native climate.

Liquorice root, lightly boiled in a little water, gives out nearly all its sweetness: the decoction, pressed through a strainer, and inspissated with a gentle heat till it will no longer stick to the fingers, affords a better extract than that brought from abroad, and its quantity amounts to near half the weight of the root.[b] Rectified spirit takes up the sweet matter of the Liquorice equally with water; and as it dissolves much less of the insipid mucilaginous substance of the root, the spirituous tinctures and extracts are proportionably sweeter than the watery.[c]

This root contains a great quantity of saccharine matter,[d] joined with some proportion of mucilage; and hence has a viscid sweet taste. From the time of Theophrastus[e] it has been a received

[a] Vide *Tourn. Herb. part.* 2. *fol.* 12. published in 1562.

[b] If the Liquorice be long boiled, its sweetness is greatly impaired, and the preparation contracts an ungrateful bitterness and black colour.

[c] *Lewis, M. M.*

[d] This matter, according to Lewis, differs from that of other vegetables, "in being far less disposed to run into fermentation." *L. c.*

[e] Hence it was named ἀδιψον, and the root directed to be chewed in dropsies and other disorders where great thirst prevailed. Vide *Theoph. L.* 9. *cap.* 13. Also noticed by *Pliny, Lib.* 22. *c.* 9.

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opinion that it very powerfully extinguishes thirst: this, if true, is the more remarkable, as sweet substances in general have a contrary effect.[e] It is in common use as a pectoral or emollient in catarrhal defluctions on the breast, coughs, hoarsenesses, &c. "Infusions or extracts made from it afford likewise very commodious vehicles or intermedia for the exhibition of other medicines: the Liquorice taste concealing that of unpalatable drugs more effectually than syrups or any of the sweets of the saccharine kind."[f]

[e] Dr. Cullen says, "to explain this, I observe that in the sweet of Liquorice, separated from the root, I do not find that it quenches thirst more than other sweets; and I take the mistaken notion to have arisen from this, that if a piece of the root is chewed till the whole of the sweetness is extracted, that further chewing brings out the acrid and bitterish matter, which stimulates the mouth and fauces, so as to produce an excretion of fluid, and thereby takes off the thirst which the sweetness had produced." *M. M. vol. ii. p.* 407. [f] *Lewis, l. c.*

DOLICHOS PRURIENS. COWHAGE DOLICHOS.

SYNONYMA. Dolichos. *Pharm. Edinb.* Phaseolus Zurratensis siliqua hirsuta, Couhage dicta. *Raii Hist. p.* 887. Phaseolus americanus, foliis molli lanugine obsitis, siliquis pungentibus, semine fusco punctato. *Plùk. Phyt. p.* 214. *f.* 1. Phaseolus utriusque Indiæ, lobis villosis pungentibus minor. *Sloane Jam. vol.* 1. *p.* 37. Phaseolus virgatus hirsutus prurigineus. *Plum. Spec.* 8. Stizolobium spicis multifloris pendulis alaribus, floribus ternatis. *Browne Jam. p.* 290. Cacara pruritus. *Rumph. Amb. vol.* 5. *p.* 393. *t.* 142. Nai-corana. *Hort. Mal. vol.* 8. *p.* 61. *t.* 35. Dâu ngûa. *Flor. Cochin. p.* 438. *Conf. Jacquin. Amer. pict. p.* 99. *t.* 188. Kerr. *Med. Comment. vol. ii. p.* 202.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 867.

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Ess. Gen. Ch. *Vexilli* basis callis 2, parallelis, oblongis, alas subtus comprimentibus.

Sp. Ch. D. volubilis, legum. racemosis: valvulis subcarinatis hirtis, pedunculis ternis.

THE root is perennial, fibrous: the stem is herbaceous, climbing, cylindrical, hairy, divided into many branches, which twist round the neighbouring trees, and rise to a considerable height: the leaves are ternate, and stand upon long footstalks, placed alternately at the distance of a foot from each other: each pinna, or lobe, is entire, ovate, pointed, smooth on the upper side, on the under hirsute; the lateral lobes are oblique, and somewhat larger than that in the middle, which is of a rhomboidal shape: the proper footstalks are short, and furnished with small stipulæ: the flowers are large, of a purplish or violet colour, and placed mostly in ternaries upon short peduncles, and form pendant spikes, which arise from the axillæ of the leaves, and are about a foot in length: the calyx is bell-shaped, gibbous at the base, lax, downy, divided into two lips, of which the upper is semi-ovate; the under separates into three lance-shaped segments: the corolla is of the papilionaceous order, consisting of a *vexillum* (standard) which is roundish, entire, concave, obtuse, and double the length of the calyx: two *alæ* (wings) which are oblong, obtuse, concave, and twice the length of the vexillum; a *carina* (keel) which is scythe-shaped, of the length of the alæ, compressed, and at the apex furnished on each side with a short concave spur: the filaments are ten, nine of which are united at the base; they are alternately longer and shorter; the former are four times the breadth of the others, and supplied with incumbent antheræ; but the antheræ of the latter are placed vertically: the germen is oblong, villous, and supports a slender style about the length of the filaments, terminated by a small orbicular stigma: the fruit is an oblong pod, in the form of the letter *f*, four or five inches in length, covered with

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brown bristly hairs, and containing four, five, or six seeds, of a brownish colour. The flowers appear in September and October.

The plant, known by the name of Cow-itch, Couhage, and Cowhage, is referred by Bergius and Miller to the Dolichos urens of Linnæus; and this error is also to be found in Aiton's Hortus Kewensis.

The pods of both D. urens and D. pruriens are beset with setaceous hairs, but of the former these are shorter, and very thinly scattered over the pod, which is keel-shaped, much longer, and more than twice the breadth of that of the latter, and marked transversely with deep furrows. These circumstances show, that the D. urens is widely different from the officinal Cowhage here figured, which is a native of both Indies, and appears to have been cultivated in England in the time of Ray by Mr. Charles Hatton;* and the plant is now growing in the apothecaries garden at Chelsea; but we cannot learn that it has ever been known to produce perfect flowers in our garden stoves: so that for the very correct figure subjoined to this sheet we are indebted to the liberality of Sir Joseph Banks, in whose herbarium we found an excellent specimen of the plant.

The sharp hairs of the pod readily penetrate the skin, and cause a very troublesome itching, a mischievous purpose to which in this country they have been long chiefly converted. But the violent irritation which these hairs produce upon the external skin has not deterred practitioners from administering them internally, especially in the West Indies, where they have been generally employed for many years as a safe and efficacious anthelmintic; and with a view to this effect they are now admitted into the Materia Medica of the Edinburgh Pharmacopœia.

Sir Hans Sloane, who has noticed the diuretic qualities of the

* Terræ commissa in horto *D. Caroli Hatton* plantas produxere. Vide *Raii Hist.* p. 887. In the *Hort. Kew.* D. pruriens is said to have been first introduced here by Mr. Gilbert Alexander: this mistake was probably caused by confounding the D. pruriens with the D. urens.

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roots and pods of this plant, observes, that an infusion of the latter "is a certain remedy for the dropsie;"[b] but he takes no notice of the vermifuge effects of Cowhage: Browne however has informed us, that "in the Windward Islands some of the inhabitants make "a syrup of the pods, which is said to be very effectual against "worms." But as little attention would be paid to an observation so vague and unsatisfactory as this, we are to consider Mr. Bancroft as the first person whose writings tended to establish the anthelmintic character of Cowhage in Europe. He tells us, "the part used is "the setaceous hairy substance growing on the outside of the pod, "which is scraped off, and mixed with common syrup or molasses, "to the consistence of a thin electuary, of which a tea-spoonful "to a child of two or three years old, and double the quantity to "an adult, is given in the morning fasting, and repeated the two "succeeding mornings; after which a dose of rhubarb is usually "subjoined. This is the empyrical practice of the planters, who "usually once in three or four months exhibit the Cow-itch in "this manner to their slaves in general, but especially to all their "children without distinction; and in this manner I have seen it "given to hundreds from one year old and upwards with the most "happy success. The patients, after the second dose, usually "discharged an incredible number of worms, even to the amount "of more than twenty at a time, so that the stools consisted of "little else than these animals." He concludes by saying, "It is "to be observed, that this remedy is particularly designed against "the long round worm; whether it is equally deleterious to the "ascarides, or whether it has ever been used against them, I am "uncertain."[c] Farther accounts, shewing the efficacy of this medicine, have since appeared in the Medical Commentaries,[d] and in a treatise, professedly written on the subject by Mr.

[b] He also informs, that this remedy was successfully used in the East Indies by Mr. Buckley. *L. c.*

[c] Vide his Essay on the natural history of Guiana in South America.

[d] See *Vol. ii.*

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Chamberlaine,[e] to which a number of cases is subjoined, and to which great additions lately have been made on various and indubitable authorities, proving the Cowhage to be not less successful here than in the warmer climates of which it is a native; and that all the different kinds of worms, known to infest the primæ viæ, have been expelled by this anthelmintic.

The manner in which these hairy spiculæ act as a vermifuge, seems to be purely mechanical; for neither the tincture, nor the decoction, possesses the least anthelmintic power.[f]

[e] Practical treatise on the efficacy of Stizolobium or Cowhage, published in 1785. As the Cowhage is seldom to be met with at the druggists, Mr. C. informs those who wish to give it a trial, that it is to be had at his house in Aylesbury street, Clerkenwell.

[f] The following experiment, made by Mr. Chamberlaine, illustrates this opinion: "A calabash, full of very large worms of the *teres* kind, in full vigour, voided by a poor emaciated patient, was brought to me. Among these, I sprinkled some of the setæ. For a minute or two no visible effect was produced; but in a little time they began to writhe and twist themselves in an unusual manner, and exhibited evident signs of extreme torture. I took one of the worms, and viewing it through a magnifying glass, perceived that several of the setæ had pierced very deep, and others were sticking loosely in various parts of its body, but that none of the spiculæ, which had once entered into the skin, dropped off." *L. c.*

TRIGONELLA FŒNUM GRÆCUM. FENUGREEK.

SYNONYMA. Fœnum græcum. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1196. *Raii. Hist. p.* 954. Fœnum Græcum sativum. *Bauh. Pin. p.* 348. Medicago leguminibus subsolitariis sessilibus erectis reflexo-falcatis acuminatis. *Hort. Cliff. p.* 376.

Class Diadelphia. *Ord.* Decandria. *Lin. Gen. Plant.* 898.

Ess. Gen. Ch. Vexillum et *Alæ* subæquales, patentes, forma corollæ 3-petalæ.

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Sp. Ch. T. leguminibus sessilibus strictis erectiusculis subfalcatis acuminatis, caule erecto.

THE root is annual, long, tapering, whitish, and fibrous: the stalk is erect, round, smooth, beset with soft hairs, often branched, and rises about two feet in height: the leaves are oblong, obtuse, slightly serrated, of a disagreeable smell, and stand in ternaries upon the common footstalks, which are placed alternately: the flowers are white, and appear in pairs at the alæ of the leaves: the calyx is funnel-shaped, striated, covered with white hairs, and divided at the brim into five narrow pointed segments: the corolla is of the papilionaceous kind, consisting of a vexillum or upper petal, which is oblong, erect, concave at the base, and indented at the apex: two alæ or lateral petals, which are entire, oval, reflexed, and elongated at the base; a carina or under petal, which is small, and of an orbicular form: the filaments are ten, nine of which are united, and all furnished with simple antheræ: the germen is sword-shaped, terminated by a short tapering style, which is furnished with a simple stigma: the pericarpium is a long compressed falcated pod, containing numerous rhomboidal seeds, of a brownish yellow colour. It flowers from June till August.

This plant is said to be a native of Montpelier, and to have been first cultivated in Britain by Gerard.* In dry seasons it maturates its seeds here very well, and, judging by our own experience, we think it might be cultivated to great advantage in this country.‡ The seeds of Fenugreek are brought to us from the southern parts of France and Germany, where they are annually sown for the purpose of exportation to different places.

" Fenugreek seeds have a strong disagreeable smell, and an unctuous farinaceous taste, accompanied with a slight bitterishness. An ounce renders a pint of water thick and slimy. To rectified

* *Hort. Kew.*

‡ Miller has given directions for cultivating this plant. See *Dict.*

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spirit they give out the whole of their distinguishing smell and taste, and afterwards to water a strong flavourless mucilage."[b]

These seeds are never given internally, their principal use being in cataplasms and fomentations, for softening, maturating, and discussing tumours; and in emollient glysters. They were also an ingredient in the *oleum e mucilaginibus* of the shops: but this has no longer a place in the pharmacopœia.

[b] *Lewis, M. M. p.* 304.

ASTRAGALUS EXSCAPUS. STEMLESS MILK VETCH.

SYNONYMA. Astragalus exscapus. *Off. Murray. vi.* 83. *Jacquin Collect. ad bot. vol.* 2. *p.* 269. *Icon, ejusd. Plant. rar. vol.* 2. *fasc.* 1. *t.* 17. *Cf. Winterl. Ind. Hort. bot. Pestin. p.* 14. Astragalus perennis supinus, foliis et siliquis hispidis, flore luteo. *Knauth. Fl. Hal. p.* 41. *Buxbaum. Pl. Hal. p.* 32. Cicer montanum ἀκαυλον. *Bauh. Pin.* 341. Glaux lanuginosa montana acaulos. *Rupp. Fl. Jen. ed. Hall.* 270. *Ic. Girtanner. l. c. inf.*

Diadelphia Decandria. *Lin. Gen. Plant.* 892.

Gen. Ch. *Legumen* biloculare, gibbum.

Sp. Ch. A. acaulis exscapus, leguminibus lanatis, foliis villosis.

ROOT perennial, simple, or generally branched towards the extremity; very long, slender, running deeply in the ground. Leaves all radical, long, pinnated, consisting of numerous pinnæ, which are regular, ovate, opposite, villous, entire, gradually smaller towards the top of the leaf, at which stands a single leafit. The flowers are large, of a pale yellow colour, and placed at the crown of the root. Calyx tubular, deeply cut into five long

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pointed teeth. Corolla papilionaceous, consisting of the vexillum, which is large, straight, closing, emarginated at the apex, two alæ or oblong lateral petals, and a short blunt carina or keel-shaped under-petal. Filaments ten, nine of which are united, and all furnished with small roundish antheræ. Germen oblong. Style tapering, bent upwards, and supplied with a blunt stigma. Pod oblong, hairy, two-valved, containing kidney-shaped seeds.

This species of Astragalus is a native of Hungary, growing in mountainous situations. It was first introduced into the Royal Garden at Kew by Jacquin in 1787.[a]

The root, which is the medicinal part of the plant, is, in its dried state, rough, and wrinkled, in long slender pieces, externally brown, internally white, and easily dividing longitudinally into filamentous fibres. It is destitute of odour, but to the taste it is bitterish, and somewhat astringent. In decoction its taste approaches to that of liquorice; some however compare its flavour to that of bitter almonds.[b] It yields about a third part of its weight of extract by means of water, but by spirit a very inconsiderable quantity is obtained.

Since the year 1786 this plant has been much celebrated as a remedy in syphilitic complaints. It was first brought into notice by Professor Winterl, at Pest, who wrote to his friends in Vienna, that on the borders of Hungary it was in common use as a remedy for the venereal disease; in consequence of this information it was tried with success at the General Hospital by Quarin.* From Vienna its reputation spread over all Germany; nor does its character rest wholly on the testimony of foreigners, as Dr. Crighton,‡ during his residence at Vienna had occasion to witness its efficacy. This root is employed in decoction in the proportion

[a] See *Hort. Kew.*

[b] Endter. *Diss. de Astrag. exscapo. p.* 12.

*. Vide *Animadv. pract.*

‡ Dr. C's letter is published by Girtanner, and in the London Med. Journ. v. 9. 406.

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of half an ounce to a pint of water, and taken warm night and morning: it is also occasionally to be used externally. By persevering a few weeks in the use of this decoction, we are told that, without mercury, the various symptoms of the most inveterate syphilis, as nodes, exostoses, tophi, scabies, venereal blotches, buboes, ulcers, &c. have been effectually cured. Besides the authors above noticed, we may remark, that the subsequent publications of Endter,[d] Wegerich,[e] Girtanner,[f] Werner,[g] Tietz,[h] Carmanti,[i] all tend in some measure to confirm the efficacy of this root.

Its use is perfectly safe; and Carmanti and others found it necessary to make the decoction much stronger than that before mentioned. Professor Hunczowsky, though unable to discover its anti-venereal powers, admits it to be an useful remedy in rheumatism.

Its sensible effects are an increase of the cutaneous and urinary discharges.

[d] *L. c.* [e] *Diss. de Astragali exscapi radice. Erf.* 1789.

[f] *Abh. über d. vener. krankh. vol. i. p.* 406. *& seq.*

[g] See *Diss. de virtute Saponariæ off.* 1789.

[h] Vide *Diss. de virtute Astrag. &c.* 1790. [i] Vide *Opusc. therapeut. v.* 2.

PTEROCARPUS SANTALINUS. RED SAUNDERS TREE.

SYNONYMA. Santalum rubrum. *Pharm. Lond. & Edinb.* Sandalum rubrum. *Rumph. Amb. vol.* 2. *p.* 47. Moutouchi suberosa. *Aublet. Guian. vol.* 2. *p.* 742. *t.* 200. Conf. *Supp. Plant.* 318.

Diadelphia Decandria. *Lin. Gen. Plant.* 854.

Gen. Ch. Cal. 5-dentatus. *Caps.* falcata, foliacea, varicosa. *Sem.* aliquot solitaria.

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Sp. Ch. P. foliis ternatis subrotundis retusis glaberrimis, petalis crenatis undulatis.

A LARGE tree, sending off lofty alternate branches, and covered with rough bark, resembling that of common alder. Leaves alternate, on footstalks, in our specimen placed in pairs, and divided into three simple leaves, but according to the *Supp. plant.* the leaves are three together, and each separating into four or five alternate pinnæ: simple leaves roundish or ovate, blunt, retuse, or somewhat notched at the apex, entire, veined, above smooth, beneath hoary. Flowers yellow, in axillary spikes. Stipulæ none. Bracteæ none. Calyx rough, cut at the brim into five short segments. Corolla papilionaceous; vexillum obcordate, erect, somewhat reflexed at the sides, dentated, waved, yellow, striated with red; alæ spreading, edges appearing toothed; carina oblong, a little inflated, short. Filaments ten, diadelphous, furnished with white round antheræ. Germen on a footstalk, oblong, compressed, hairy. Style curved. Stigma obtuse. Pod roundish, compressed, smooth, falcated upwards, lower margin keel-shaped, containing a round compressed seed.

This tree is a native of India, affecting mountainous situations.

Its characters were first ascertained by König, who sent a specimen and description of it to the younger Linnæus, by whom it is published in the Species plantarum.

The annexed figure is taken from a very perfect specimen in the Herbarium of Sir Joseph Banks.*

There is reason to believe, that several red woods, capable of communicating this colour to spirituous liquors, are sold as Red Saunders; but the true officinal kind appears, on the best authority, to be of this tree, which is extremely hard, of a bright garnet red colour, and bears a fine polish. It is only the inner substance of the wood that is used as a colouring matter, and the more florid

* The specimen is accompanied with a piece of the wood, which answers to the description here given.

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red is most esteemed. On being cut it is said to manifest a fragrant odour, which is more especially perceptible in old trees.

According to Lewis, this wood "is of a dull red almost blackish colour on the outside, and a deep brighter red within; its fibres are now and then curled, as in knots. It has no manifest smell, and little or no taste: even of extracts made from it with water, or with spirit, the taste is inconsiderable. To watery liquors it communicates only a yellowish tinge, but to rectified spirit a fine deep red: a small quantity of an extract, made with this menstruum, tinges a large one of fresh spirit of the same elegant colour; though it does not, like most other resinous bodies, dissolve in expressed oils: of distilled oils, there are some, as that of lavender, which receive a red tincture from the wood itself, and from its resinous extract, but the greater number does not."[b]

Red Saunders has been esteemed as a medicine; but its only use attaches to its colouring property.

The juice of this tree, like that of some others, affords a species of sanguis draconis.

[b] *M. M.* 579.

The medicinal plants of this order, which remain unnoticed, are

Systematic Names.	Officinal.	English.
Lupinus albus	Lupinus	White Lupine
Genista canariensis	Rhodium Lignum	Rhodium Wood
Ononis arvensis	Ononis	Rest-Harrow
Vicia Faba	Faba	Garden-bean
Ervum Lens	Lentes	Lentil, or flat Tare
Ervum Ervilia	Ervum	Officinal Tare
Cicer arietinum	Cicer	Chick Pea
Galega officinalis	Galega	Goat's-rue
Trifolium melilotus off.	Melilotus	Melilot Trefoil

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ORD. XXV. LOMENTACEÆ.

(From *Lomentum*, a colour used for painting)

As many of the plants of this order afford beautifully coloured tinctures, and some of them much used in dyeing.

MIMOSA CATECHU. CATECHU MIMOSA.

Ex hujus plantæ lingo paratur *Catechu*, vulgo *Terra Japonica*. *Pharm. Lond.* & *Edinb.*

SYNONYMA. Mimosa Cate; spinis duabus stipularibus, foliis bipinnatis 15-30 jugis, foliolis 40 jugis, spicis elongatis axillaribus. Vide *Murray App. Med. vol. ii. p.* 415. *Coira* vel *Caira* in Provincia Bahar dicitur. See *Kerr's* "Description of the Plant from which the *Terra Japonica* is extracted. *Med. Obs.* & *Inquir. vol. v. p.* 151. *Suppl. Plant. p* 439.

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1158.

Ess. Gen. Ch. Hermaph. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5 s. plura. *Pist.* 1 Legumen.

Masc. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5, 10, plura.

Sp. Ch. M. spinus stipularibus, foliis bipinnatis multijugis: glandulis partialium singulis, spicis axillaribus geminis s. ternis pedunculatis. *Syst. Veg. ed.* 14.

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ACCORDING to Mr. Kerr, this small tree grows to twelve feet in height, and to one foot in diameter; it is covered with a thick rough brown bark, and towards the top divides into many close branches: the leaves are bipinnated, or doubly winged, and are placed alternately upon the younger branches: the partial pinnæ are nearly two inches long, and are commonly from fifteen to thirty pair, having small glands inserted between the pinnæ: each wing is usually furnished with about forty pair of pinnulæ or linear lobes, beset with short hairs: the spines are short, recurved, and placed in pairs at the bases of each leaf: the flowers are hermaphrodite and male, and stand in close spikes, which arise from the axillæ of the leaves, and are four or five inches long: the calyx is tubular, hairy, and divides at the limb into five oval pointed segments; the corolla is monopetalous, whitish, and of the same form as the calyx, but twice its length: the filaments are numerous, capillary, double the length of the corolla, adhering at the base of the germen, and crowned with roundish antheræ: the germen is oval, and supports a slender style, which is of the length of the filaments, and terminated by a simple stigma: the fruit, or pod, is lance-shaped, brown, smooth, compressed, with an undulated thin margin; it contains six or eight roundish flattened seeds, which produce a nauseous odour when chewed. This tree grows plentifully on the mountainous parts of Indostan, where it flowers in June.

An Indian drug, known by the name of Terra Japonica, and now more properly called Catechu, has long been an officinal medicine in Europe; and though soon discovered by chemical analysis to be of vegetable origin, yet neither was the plant from which it is produced, nor the process by which it is prepared, sufficiently ascertained for near a century afterwards. Writers on the Materia Medica very generally, from the time of Clusius, considered the Catechu to be extracted from the seeds of a nut, the produce of a species of palm; (Areca, or Beetle-nut) and conformably to this opinion, Linnæus, in both the editions of his Mat. Med. refers this

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drug to the "Areca *Catechu* frondibus pinnatis, foliolis replicatis oppositis præmorsis." We are told however by Mr. Kerr, that in the Province of Bahar, where the Terra Joponica is manufactured, the price of the Areca-nut far exceeds that of the Catechu.[a] But he thinks it probable that where this nut is in great plenty, "they may perhaps join some of the fruit in making the extract, to answer a double purpose, for the most frequent use of both is in chewing them together, as Europeans do tobacco; to these two substances they add a little shell lime, and a leaf called *Pauw*."[b] Cleyerus and Herbert de Jager,[c] more especially the latter, have asserted, that the Catechu is not extracted from one tree only, but from almost all the species of Acacia, whose bark is astringent and reddish, and from many other plants, which by boiling yield a juice of the like sort; and though these extracts differ considerably, yet in India they are all denominated Khaath or Catechu.‡ But the tree which affords the best extract, according to his description appears evidently to be a Mimosa.[d]

In this uncertainty our knowledge concerning the production of Terra Japonica still remained, till Mr. Kerr (assistant surgeon to the civil hospital at Bengal) transmitted an account of this substance, which completely removed every doubt respecting its origin. In this account we are told, that he not only carefully

[a] Mr. Kerr says, if the Terra Japonica were extracted from this nut, it would be twenty times dearer than in the present sales. Vide l. c.

[b] Hence the following lines:

Quis foliis credat commixta calce tenellis,
Cum fructu hoc Indos vesci, unde ore cruento
Purpureum ejiciunt succum, tam dentibus atris
Horrendum arringunt, & dentibus ore minantur?

[c] Vide *Misc. Nat. Cur. Dec.* 2. *Ann.* 4. *Obs.* 3. & *Dec.* 2. *Ann.* 3. *p.* 8.

‡ The derivation of the word Catechu seems to favour this opinion; *Cate*, in the oriental language, signifies a tree, and *Chu*, juice.

[d] According to the Linnæan nomenclature we have no genus under the name *Acacia*. But the Mimosas are very numerous, and that most known in Europe is the M. pudica, or humble *sensitive plant*, and the remarkable contractions which

attended to the process of the manufacturer in the preparation of Catechu, but that he actually repeated it himself; and upon the faith of the figure and description of the plant which he has given, and from which he prepared the Catechu, the younger Linnæus has admitted it into the Supp. Plant. under the name of Mimosa Catechu; and we have accordingly figured the plant. The preparation of the extract is stated by Mr. Kerr to be as follows: "After felling the trees, the manufacturer carefully cuts off all the exterior white part of the wood. The interior coloured wood is cut into chips, with which he fills a narrow-mouthed unglazed earthen pot, pouring water upon them until he sees it among the upper chips; when this is half evaporated by boiling, the decoction, without straining, is poured into a flat earthen pot, and boiled to one third part; this is set in a cool place for one day, and afterward sevaporated by the heat of the sun, stirring it several times in the day; when it is reduced to a considerable thickness, it is spread upon a mat or cloth, which has previously been covered with the ashes of cow dung; this mass is divided into square or quadrangular pieces by a string, and completely dried by turning them frequently in the sun, until they are fit for sale."[e]

it manifests upon being touched, or even approached, induced my ingenious friend Dr. Marshal, to dissect the moving fibres. In his letter to me, he says, "I have made two or three dissections (more to gratify the curiosity of the "moment than to ascertain any discovery) of the fleshy joints of the Mimosa "pudica; branch is articulated with stem, petiolus with branch, and petiolus of "the leafit with the common petiolus. Within the fleshy substance of the joint "are found numerous white threads, which go from one articulated body to "the other, inserted into both. These it would appear, are the irritable fibres, "by which the motions are performed."

[e] "In making the extract, the pale brown wood is preferred, as it produces the fine whitish extract: the darker the wood is, the blacker the extract, and of less value. They are very careful in drying their pots upon the fire, before they are used; but very negligent in cutting their chips upon the ground, and not straining the decoction, by which, and the dirty ashes they use, there must be a considerable quantity of earth in the extract, besides what avarice may prompt them to put into it." *Kerr l. c.*

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This extract is called *Cutt* by the natives, by the English *Cutch*, and by different authors Terra Japonica, Catechu, Khaath, Cate, Cachou, &c. "In its purest state it is a dry pulverable substance, outwardly of a reddish colour, internally of a shining dark brown, tinged with a reddish hue; in the mouth it discovers considerable astringency, succeeded by a sweetish mucilaginous taste. According to Lewis, "it dissolves almost totally in water, excepting the impurities; which are usually of the sandy kind, and amounting in the specimens I examined to about one-eighth of the mass. Of the pure matter, rectified spirit dissolves about seven-eighths into a deep red liquor: the part which it leaves undissolved, is an almost insipid mucilaginous substance."[f] "Catechu may be usefully employed for most purposes where an astringent is indicated, provided the most powerful be not required. But it is particularly useful in alvine fluxes; and where these require the use of astringents, we are acquainted with no one equally beneficial. Besides this, it is employed also in uterine profluvia, in laxity and debility of the viscera in general, in catarrhal affections, and various other diseases where astringents are necessary. It is often suffered to dissolve leisurely in the mouth, as a topical astringent for laxities and exulcerations of the gums, for apthous ulcers in the mouth, and similar affections."[g] "This extract is the basis of several fixed formulæ in our pharmacopœias, par-

[f] Lewis's M. M. p. 642.

[g] See Duncan's *Edinb. New Dispens.* p. 167.

The antiseptic quality of Catechu appears from the experiments made by Sir John Pringle. *(Vide Diss. of the Army, App. Exp.* 10.) Huxham employed it successfully in cases where a putrid dissolved state of the blood prevailed. This extract is the principal ingredient in an ointment of great repute in India, composed of Catechu four ounces, alum nine drams, white resin four ounces; these are reduced to a fine powder, and mixed with the hand, adding olive oil ten ounces, and a sufficient quantity of water, to bring the mass to the consistence of an ointment. To all sores and ulcers in warm climates astringent applications of this kind, are found to be peculiarly useful. See *Kerr l. c.*

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ticularly of a tincture and an electuary: but one of the best forms under which it can be exhibited, is that of a simple infusion in warm water, with a proportion of cinnamon or cassia; for by this means it is at once freed from its impurities, and improved by the addition of the aromatic."

MIMOSA NILOTICA. EGYPTIAN MIMOSA, ACACIA, EGYPTIAN THORN.

Gummi Arabicum, *Pharm. Lond.* & *Edinb. sponte ex hac planta fluit.*

SYNONYMA. Acacia vera. *J. Bauh. Hist. vol. i. p.* 429. Acacia foliis scorpioides leguminosæ. *Bauh. Pin.* 392. Acanthus Theophrasti. *Raii Hist. p.* 976. Acacia vera sive spini Ægyptiaca. *Park. Theat. p.* 1547. Acacia vera s. Spina Ægyptiaca, subrotundis foliis flore luteo; siliqua paucioribus isthmis glabris nigricantibus. *Pluk. Alm.* 3. *t.* 123. *f.* 1. Acacia Ægyptiaca siliquis Lupini, floribus luteis. *Herm. Parad. Bat. Prod.* 303. Conf. *Hasselq. it. p.* 475. Ακακια *Dioscorid. L.* 1. *cap.* 133.

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1158.

Ess. Gen. Ch. Hermaph. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5 s. plura. *Pist.* 1. *Legumen.*

Masc. Cal. 5-dentatus. *Cor.* 5-fida. *Stam.* 5, 10, plura.

Sp. Ch. M. spinis stipularibus patentibus, foliis bipinnatis: partialibus extimis glandula interstinctis, spicis globosis pedunculatis.

THIS, like the preceding species of Mimosa, rises several feet in height: it is covered with smooth bark of a grey colour, and that of the branches has commonly a purplish tinge: the leaves are bipinnated, and placed alternately: the partial pinnæ are oppo-

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site, furnished with a small gland between the outermost pair, and beset with numerous pairs of narrow elliptical pinnulæ, or leafits: the spines are long, white, spreading, and proceed from each side of the base of the leaves: the flowers are hermaphrodite and male, they assume a globular shape, and stand four or five together upon slender peduncles, which arise from the axillæ of the leaves: the calyx is small, bell-shaped, and divided at the mouth into five minute teeth: the corolla consists of five narrow yellowish segments: the filaments are numerous, capillary, and furnished with roundish yellow antheræ: the germen is conical, and supports a slender style, crowned with a simple stigma: the fruit is a long pod, resembling that of the Lupine, and contains many flattish brown seeds. It is a native of Arabia and Egypt, and flowers in July.[a]

Dioscorides was certainly well acquainted with this tree, as he not only mentions the gum which it produces, but also the renowned *Acaciæ veræ succus,*[b] obtained from its pods; since his time, however, it has been thought that gum arabic is not the production of the Acacia or Mimosa, as it is now called; but the accounts given by Alpinus, and those of subsequent naturalists, leave no doubt upon this subject.[c]

Although the Mimosa nilotica grows in great abundance over the vast extent of Africa, yet gum arabic is produced chiefly by

[a] The M. nilotica was cultivated in England by Evelyn in 1664. Kalend. h. p. 75. A plant of this species is now in the Royal Garden at Kew, about four feet in height: and in Dr. Lettsom's garden at Grove Hill, where it flowers annually.

[b] The pod, and manner of preparing the juice, are thus mentioned by Murray: "Ex fructu elicitur, qui ipse legumen est complanatum viridi brunum, quatuor vel quinque pollices longum et octies vel decies angustius, compositum ex sex vel decem partibus vel articulis discoideis et intra utramque cuticulam parenchyma gummosum rubicundum continens. In quovis articulo latet semem ellipticum sulco utrinque pariter elliptico notatum. Succus exprimitur ex fructu immaturo in mortario contuso, et calore in spissitudinem extracti densatur," &c. *Vide App. Med. vol. ii. p.* 412.

[c] Hasselquist. Adanson, Sparrman, and others.

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those trees, which are situated near the equatorial regions; and we are told that in Lower Egypt the solar heat is never sufficiently intense for this purpose.[d] The gum exudes in a liquid state from the bark of the trunk and branches of the tree, in a similar manner to the gum which is often produced upon the cherry trees, &c. in this country; and by exposure to the air it soon acquires solidity and hardness. In Senegal the gum begins to flow when the tree first opens its flowers,[e] and continues during the rainy season till the month of December, when it is collected for the first time. Another collection of the gum is made in the month of March, from incisions in the bark, which the extreme dryness of the air at that time is said to render necessary.[f]

Gum arabic is now usually imported into England from Barbary, not packed up in skins, which was the practice in Egypt and Arabia, but in large casks or hogsheads. The common appearance of this gum is so well known as not to require any description of it here; and the various figures which it assumes seem to depend upon a variety of accidental circumstances attending its transudation and concretion.

Gum Arabic of a pale yellowish colour is most esteemed; on the contrary, those pieces which are large, rough, of a roundish figure, and of a brownish or reddish hue, are found to be less pure, and are said to be produced from a different species of Mimosa: (M. Senegal) but the Arabian and Egyptian gum is commonly intermixed with pieces of this kind, similar to that which comes from the coast of Africa, near the river Senegal. Gum Arabic does not admit of solution by spirit or oil, but in twice its quantity of water it dissolves into a mucilaginous fluid, of the consistence of a thick syrup, and in this state answers many useful pharmaceutical purposes, by rendering oily, resinous, and pinguious substances, miscible with water.[g]

[d] Niebuhr Reisebesch. Arab. 1. B. p. 143.

[e] Adanson Mem. de l'Ac. d Sc. d. Paris, 177. 3. p. 8.

[f] Demanet Nouvelle Hist. de l'Afrique Françoise, t. 1. p. 56.

[g] See Mr. French's Experiments in Lond. Med. Observ. vol. 1. p. 413, &c.

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The glutinous quality of gum arabic is preferred to most other gums and mucilaginous substances as a demulcent, in coughs, hoarsenesses, and other catarrhal affections, in order to obtund irritating acrimonious humours, and to supply the loss of abraded mucus. It has been very generally employed in cases of ardor urinæ, and stranguary: but it is the opinion of Dr. Cullen, "that even this mucilage, as an internal demulcent, can be of no service beyond the alimentary canal. In common practice hardly more than a few ounces are given in one day; and what that can give of a mucilaginous quality to many pounds of serosity, I leave my intelligent reader to judge. Still, however, it may not be thought enough to reason *a priori*, and I should say, what experience has actually taught. What others may have observed, I cannot determine; but, for myself I can assert, that, in innumerable trials, I have never observed the effects of gum arabic in the mass of blood, or in the excretions derived from it. The most frequent occasion for its use is in the ardor urinæ; and in that I have been often disappointed, and have often found that two pounds of water or watery liquors added to the drink, would be of more service than four ounces of gum arabic taken in without such addition."[h]

This gum is an ingredient in the Hartshorn decoction, the chalk Julep, the common emulsion, and some of the troches as directed in our Pharmacopœias.

[h] Mat. Med. p. 415. vol. 2.

Gum Arabic has been found a good substitute for food; and Dr. Sparrman tells us, that he pointed out this gum to the Hottentots, "which they might gather in many spots thereabouts from the Mimosa nilotica; but this was a species of food very well known to them, and which they had often tried.—When in want of other provisions, the Boshies-men are said to live upon this for many days together."—Voyage to the Cape, vol. ii. p. 23.

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CASSIA SENNA. SENNA, Or, EGYPTIAN CASSIA.

SYNONYMA. Senna. *Pharm. Lond. & Edinb.* Senna Alexandrina, sive foliis acutis. *Bauh. Pin. p.* 397. *Morris Hist. t. ii. p.* 201. *sect.* 2. *tab.* 24. *f.* 1. *Raii Hist. p.* 1742. Senna (Alexandrina) foliolis quadrijugatis lanceolatis acutis. *Miller's Dict.* Le Sené. Regnault Bot. p. 388. Ic. opt.

Senna italica, sive foliis obtusis. *Bauh. l. c. Park. Theat. p.* 225.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 514.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Antheræ* supremæ 3 steriles; infimæ. 3 rostratæ. *Legumen.*

Sp. Ch. C. foliis sejugis subovatis, petiolis eglandulatis.

THE root is annual: the stalk is strong, smooth, branched, erect, and rises about two feet in height: the leaves stand in alternate order, and at their base are placed narrow pointed stipulæ: each leaf is composed of several pairs of oval or elliptical pointed nerved sessile pinnæ, of a yellowish green colour: the flowers are yellow, and produced successively in long axillary spikes: the calyx consists of five leafits, which are narrow, obtuse, concave, unequal, and deciduous: the corolla is composed of five petals, which are roundish, concave, entire, and of unequal size: the filaments are ten, of which the three undermost are longer than the others, and furnished with large beaked curved antheræ: the germen stands upon a short pedicle, and is long, compressed, and supplied with a short style, which is turned inwards, and terminated by an obtuse stigma: the seeds are brown, roundish, flat, and produced in a short compressed curved pod, divided by transverse partitions. The flowers appear in July and August.

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Senna is a native of Egypt: it also grows in some parts of Arabia, especially about Mocha; but as Alexandria has ever been the great mart from which it has been exported into Europe, it has long been distinguished by the name of Alexandrian Senna, or Sena.—Mons. Blondel, who was French Consul at several sea ports of the Levant, informs us, that the true Senna grows only in the woods of Ethiopia and in Arabia; for that the Senna, which was brought from Saide and Tripoli was carried there by the Caravans,[a] and the negative testimony of Alpinus, who in his Lib. de plantis Ægypti does not notice Senna, may seem to strengthen this opinion. But as Hasselquist found this plant growing spontaneously in upper Egypt,[b] the assertion of Mr. Blondel is not to be implicitly received.

The Senna italica, or blunt-leaved Senna, is a variety of the Alexandrian species, which by its cultivation in the south of France, (Provence) has been found to assume this change;[c] it is less purgative[d] than the pointed-leaved Senna, and is therefore to be given in larger doses; it was employed as a cathartic by Dr. Wright at Jamaica, where it grows on the sand banks near the sea.

Senna appears to have been cultivated in England in the time of Parkinson[f] (1640); and Miller tells us, that by keeping these

[a] Savary, *Dict. ii.* 1537.

[b] *Resa, p.* 532. Bergius says, "Senna sponte provenit in Ægypto superiori, & colliguntur folia a rusticis Arabibus, postquam semina matura produxit planta foliaque penitus fere exaruerunt. Hi Sennam vendunt principi (Schek) suo, qui illam Cairum mittit, emendam ab illo, in quem monopolium derivavit cohors Janizarorum. Hic vero Sennam postea vendit Europæis. Sic demum Senna Ægyptiaca, revera optima, ad officinas nostras migrat.' *M. M. p.* 338. See also Hasselquist, l. c.

[c] Vide Gouan's Letters to Salvador Soliva in *Dis. Sobre el Sen de Espanna.* Madrid. 1774.

[d] Coste and Willemet *Essais sur quelque plantes indigenes Medic.* a Nancy. p. 25.

[e] See *Lond. Med. Journ. vol.* 8.

[f] Vide *Park. Theat. p.* 225. *cited in Hort. Kew.*

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plants in a hot bed all the summer, he frequently had them in flower, but adds, it is very rarely that they perfect their seeds in England.[g] There can be little doubt however but that some of the British possessions may be found well enough adapted to the growth of this vegetable, and that the patriotic views of the Society for encouraging Arts, &c. which has offered a reward to those who succeed in the attempt, will be ultimately accomplished.

The leaves of Senna, which are imported here for medicinal use, have a rather disagreeable smell, and a subacrid bitterish nauseous taste: they give out their virtue both to watery and spirituous menstrua, communicating to water and proof spirit a brownish colour, more or less deep according to the proportions; to rectified spirit a fine green.[h]

Senna, which is in common use as a purgative, was first known to the Arabian physicians, Serapion and Mesue; and the first of the Greeks by whom it is noticed is Actuarius, who does not mention the leaves, but speaks of the fruit. Mesue likewise seems to prefer the pod to the leaves, as being a more efficacious cathartic;[i] but the fact is contrary, for it purges less powerfully than the leaf, though it has the advantage of seldom griping the bowels, and of being without that nauseous bitterness which the leaves are known to possess.* How bitterness aids the operation of Senna is not easily to be understood; but it is observed by Dr. Cullen, that "when Senna was infused in the infusum amarum, a less quantity of the Senna was necessary for the dose than the simple infusions of it."[k] The same author has remarked, "that

[g] See *Dict.* [h] *Lewis, M. M.*

[i] Folliculo quam foliis est efficacior, præsertim si is ex viridi nigricat, modice amarus, subadstringit absolutus, recens, in quo semen amplum, compressum; vetustate enim exanimatur. *Mesue D. Simp. l. 2. c. 15. p. 65.*

* It has been an opinion generally received, that the footstalks of the leaves and twigs occasioned severe griping; but this Bergius denies, as in a number of instances he found their effects uniformly similar to those of the leaves. *L. c.*

[k] *M. M. v. ii. p. 521.*

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as Senna seldom operates without much griping, its frequent use is a proof how much most part of practitioners are guided by imitation and habit."[1] Senna however, when infused in a large proportion of water, as a dram of the leaves to four ounces of water, rarely occasions much pain of the bowels, and to those who do not object to the bulkiness of the dose, may be found to answer all the purposes of a common cathartic. For covering the taste of Senna, Dr. Cullen recommends coriander seeds; but for preventing its griping, he thinks the warmer aromatics, as cardamoms or ginger, would be more effectual. The formulæ given of the Senna by the Colleges, are those of an infusion, a powder, a tincture, and an electuary. Its dose in substance is from a scruple to a dram.

[1] *L. c. p.* 537.

The leaves of Colutea arborescens, (Common Bladder Senna) are purgative, and may be substituted for those of Senna, according to Bartholin. *Med. Dan. Domest. p.* 126 *Ed.* 4. This is the more worthy of notice, as it is usually cultivated for ornament in this country.

CASSIA FISTULA. PURGING CASSIA.

SYNONYMA. Cassia fistularis. *Pharm. Lond. & Edinb.* Cassia Fistula Alexandrina. *Bauh. Pin. p.* 403. *Raii Hist. p.* 1746. Commel. Hort. Amstel. t. 1. p. 215. tab. 110. Cassia Fistula. *Rumph. Herb. Amb. t.* 2. *p.* 83. *tab.* 21. Cassia Fistula Chaiarx-ambar vocata. *Alpinus de plant. Ægypti. p.* 3. *ic. p.* 7. Conna. *Hort. Malab. T. i. p.* 37. *tab.* 21. Cassia solutiva. *Grac. Arom. l.* 1. *c.* 29. Tlái Xiem. *Flor. Cochin.*

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 514.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Antheræ* supremæ 3 steriles; infimæ 3 rostratæ. *Legumen.*

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Sp. Ch. C. foliis quinquejugis ovatis acuminatis glabris, petiolis eglandulatis.

THIS tree frequently rises forty feet in height, producing many spreading branches towards the top, and covered with brownish bark, intersected with many cracks and furrows: the leaves are pinnated, composed of four to six pairs of pinnæ, which are ovate, pointed, undulated, nerved, of a pale green colour, and stand upon shortish footstalks: the flowers are large, yellow, and placed in spikes upon long peduncles: the calyx consists of five oblong blunt greenish crenulated leaves: the corollæ is divided into five petals, which are unequal, spreading, and undulated: the filaments are ten; of these the three undermost are very long and curled inwards; the remaining seven exhibit only the large antheræ, which are all rostrated, or open at the end like a bird's beak: the germen is round, curved inwardly, without any apparent style, and terminated by a simple stigma: the fruit is a cylindrical pendulous pod, from one to two feet in length; at first soft and green, afterwards it becomes brown, and lastly black and shining, divided transversely into numerous cells, in each of which is contained a hard round compressed seed, surrounded with a black pulpy matter. The flowers appear in June and July.

This tree, which is a native of both the Indies, and of Egypt, was first cultivated in England by Mr. Philip Miller in 1731.[a] The pods of the East India Cassia are of less diameter, smoother, and afford a blacker, sweeter, and more grateful pulp than those which are brought from the West Indies, South America, or Egypt, and are universally preferred. In Egypt it is the practice to pluck the Cassia pods before they arrive at a state of maturity, and to place them in a house, from which the external air is excluded as much as possible: the pods are then laid in strata of half a foot in depth, between which palm leaves are interposed: the two following days the whole is sprinkled with water, in order to pro-

[a] Hort. Kew.

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mote its fermentation; and the fruit is suffered to remain in this situation forty days, when it is sufficiently prepared for keeping.[b]

Those pods, or canes, which are the heaviest, and in which the seeds do not rattle on being shaken, are commonly the best, and contain the most pulp, which is the part medicinally employed, and to be obtained in the manner described in the pharmacopœias.[c]

The best pulp is of a bright shining black colour, and of a sweet taste, with a slight degree of acidity. "It dissolves both in water and in rectified spirit; readily in the former, slowly and difficultly in the latter, and not totally in either: the part which remains undissolved appears to be of little or no activity."[d]

We are told by C. Bauhin, that some have supposed the Siliqua Ægyptiaca of Theophrastus to be our Cassia Fistula;[e] but there seems no evidence of its being known to the ancient Greeks; so that it is with more probability thought that the use of this, as well as of Senna, was first discovered by the Arabian physicians.[f]

The pulp of Cassia has been long used as a laxative medicine, and being gentle in its operation, and seldom occasioning griping or uneasiness of the bowels, has been thought well adapted to children, and to delicate or pregnant women. Adults, however, find it of little effect, unless taken in a very large dose, as an ounce or more, and therefore to them this pulp is rarely given alone, but usually conjoined with some of the brisker purgatives. It has been observed by Vallisnieri, that its purgative quality is remarkably promoted by manna; but this effect was never discovered in the trials made by Dr. Cullen, in whose opinion the Cassia pulp is much of the same nature as the fructus acido dulces; and he says, "it would certainly be proper for our country

[b] Vide Hasselquist and Alpinus.

[c] See Pulparum extractio. [d] Lewis, M. M. p. 207.

[e] Siliquam Ægyptiacam Theophrasti (1 hist. 18.) nonnulli censent. *Pinax. p.* 403.

[f] Therefore to be considered the Eiarxamber of Serapion, and the Chaiarlander of Avicenna, from whom Actuarius seems to have his Κασσια μελαινα.

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apothecaries to know that the pulp of prunes might be employed in the place of the more expensive and precarious Cassia."[g]

By the use of Cassia, it has been remarked, that the urine becomes of a green or blackish colour;[h] but Bergius relates, that a young man took an ounce three successive mornings without producing the least change in the colour of his urine.[i]

The officinal preparation of this drug is the electuarium e cassia: it is also an ingredient in the electuarium e senna, or e. lenitivum.

[g] *M. M. vol. ii. p.* 506.

[h] By Sennertus, Lösecke, Boerhaave, Lewis, &c.

[i] M. M. p. 341. Gmelin also denies this effect of Cassia. *Diss. de Rhab. p.* 30.

TAMARINDUS INDICA. TAMARIND TREE.

SYNONYMA. Tamarindus. *Pharm. Lond. & Edinb. Gerard Emac. p.* 1607. *Park. Theat. p.* 217. *Pluck. tab.* 64. *fig.* 4. *Rumph. Herb. Amb. p.* 90. *tab.* 23. Siliqua arabica, quæ Tamarindus. *Bauh. Pin. p.* 403. Balam Pulli. *Hort. Malab. tom. i. p.* 39. *tab.* 23. Tamarindus indica. *Jacquin, Pl. Americ. p.* 10. *tab.* 10. *ed.* 2. *pict. p.* 11. *t.* 13. Conf. *Sloane's Jamaica, vol. ii. p.* 45. *Browne's Jamaica, p.* 125. *Hughes's Barbad. p.* 189. *Long's Jamaica, vol. iii. p.* 729. *Swartz. Obs. Botan. p.* 25. *Cáy Me.* Flor. Cochin. p. 403.

Class Monadelphia. *Ord.* Triandria. *Schreb. Gen. Plant. p.* 450.

Ess. Gen. Ch. Cal. 4-partitus. *Petala* 3. *Nectarium* setis 2 brevibus sub filamentis. *Legumen* pulposum.

THIS tree rises to a great height, sending off numerous large branches, which spread to a considerable extent, and have a beautiful appearance: the trunk is erect, thick, and covered with rough bark of a greyish or ash-colour; the leaves are pinnated,

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alternate, consisting of several parts (about 14) of small pinnæ, which are opposite, oblong, obtuse, entire, smooth, of a yellowish green colour, and stand upon very short footstalks: the flowers approach to the papilionaceous kind, and are produced in racemi or lateral clusters: the calyx consists of four deciduous leaves, which are patent or reflexed, oblong, or rather ovate, entire, smooth, nearly equal in size, and straw-coloured or yellowish: the petals are three, ovate, concave, acute, indented, and plaited at the edges, about the length of the calyx, and of a yellowish colour, beautifully variegated with red veins: the peduncles are about half an inch long, and each furnished with a joint, at which the flower turns inwards: the filaments are commonly three, but in some flowers we have found four, in others only two; they are purple, united at the base, and furnished with incumbent brownish antheræ: the germen is oblong, compressed, incurved, standing upon a short pedicle: the style is tapering, somewhat longer than the filaments, and terminated by an obtuse stigma: the fruit is a pod of a roundish compressed form, from three to five inches long, containing two, three, or four flattish angular shining seeds, lodged in a dark pulpy matter, and covered by several rough longitudinal fibres. The flowers, according to Jacquin, appear in October and November.

The generic character of Tamarindus is wholly founded upon this species, as no other of the same family has hitherto been discovered.[a] Though Linnæus in his last edition of the Genera plantarum has followed Jacquin's description of the Tamarindus, in observing that the filaments are united at the base, a circumstance which ought to have placed it in the class Monadelphia, yet notwithstanding this, they neither thought proper to remove it from the class Triandria, where it also has been since retained in Murray's edition of the System Vegetabilium; and is consequently thus classed by us in the systematic arrangement prefixed

[a] Considerable difference in the shape of the pod and sweetness of the pulp has been observed; but this variety depends upon the locality of the tree.

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to the first volume in the first edition of this work. Since that time however, we have had an opportunity of examining the recent flower of the Tamarind, from which we have no doubt of its having the true character of the monadelphia class, in which we have now placed it, and for which we have lately had the authority of Schreber,‖ and that of De Loureiro.†

This tree, which appears upon various authorities, to be a native of both Indies,[b] America, Egypt, and Arabia, was cultivated in Britain previous to the year 1633; for in Johnson's edition of Gerard we are told, that the figure of the Tamarind "*is of a plant some six months old, arisen of a seed: and such by sowing of seeds I have seene growing in the garden of my deceased friend Mr. Tuggy.*"[c] Miller informs us, that Tamarind plants, "if rightly managed, will grow very fast;" adding, "for I have had them upwards of three feet high in one summer, from seed, and have had two plants, which produced flowers the same season they were sown; but this was accidental, for none of the older plants have produced any flowers, although I have several plants of different ages, some of which are sixteen or eighteen years old, and about twelve feet high, with large spreading tops."[d] To this it may be added, that a healthy tree of this species, now in the Royal Botanic Garden at Kew, much larger and older than those mentioned by Miller, has not been known to flower for several years before the present summer; this fortunately enables us to publish a perfect specimen of it represented by the annexed plate, which will be

‖ V. Genera plant. Class Monadelph. Ord. Triand. p. 450.

† He says, A Classe Triandria ad Monadelphiam transtuli hoc genus non solum propriâ observatione fretus, sed etiam ab ipso Linnæo monitus filamenta habere infernè connata. *Flor. Cochin. p.* 403.

In order to make this more evident, we have displayed the filaments as they appeared in our specimen. The rudiments of other filaments probably constituted that part of the generic character which has not been noticed in our description.

[b] Sir Hans Sloane however says, "these trees were strangers in the West Indies, and planted first at Acapulco." *L. c.* [c] *L. c. p.* 1608. [d] See *Dict.*

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found to correct the figure of the Tamarind, given by the justly celebrated botanist Jacquin.

The pulp of the Tamarind, with the seeds, connected together by numerous tough strings or fibres, are brought to us freed from the outer shell, and commonly preserved in syrup. According to Long, Tamarinds are prepared for exportation at Jamaica, in the following manner. "The fruit or pods are gathered (in June, July, and August) when full ripe, which is known by their fragility or easy breaking on small pressure between the finger and thumb. The fruit, taken out of the pod, and cleared from the shelly fragments, is placed in layers in a cask, and boiling syrup, just before it begins to granulate, is poured in, till the cask is filled: the syrup pervades every part quite down to the bottom, and when cool the cask is headed for sale."[e] He observes, that the better mode of preserving this fruit is with sugar, well clarified with eggs, till a transparent syrup is formed, which gives the fruit a much pleasanter flavour: but as a principal medicinal purpose of the pulp depends upon its acidity, which is thus counteracted by the admixture of sugar, it would therefore be of more utility if always imported here in the pods.[f] The fruit produced in the East Indies is more esteemed than that of the West, and easily to be distinguished by the greater length of the pods, and the pulp being dryer, and of a darker colour.

This fruit, the use of which was first learned of the Arabians, contains a larger proportion of acid, with the saccharine matter, than is usually found in the *fructus acido-dulces*, and is therefore not only employed as a laxative, but also for abating thirst and heat in various inflammatory complaints, and for correcting putrid disorders, especially those of a bilious kind; in which the cathartic, antiseptic, and refrigerant qualities of the fruit have been found equally useful. When intended merely as a laxative it may be of advantage to join it with manna, or purgatives of a sweet kind, by which its use is rendered safer and more effectual. Three

[e] *L. c.* [f] *Cullen, M. M. vol. ii. p. 507.*

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drams of the pulp are usually sufficient to open the body; but to prove moderately cathartic, one or two ounces are required. It is an ingredient in electuarium e cassia, and el. e senna, or lenitive electuary.

"Tournefort relates, that an essential salt may be obtained from Tamarinds, by dissolving the pulp in water, and setting the filtered solution, with some oil upon the surface, in a cellar for several months; that the salt is of a sourish taste, and difficultly dissoluble in water; and that a like salt is sometimes found also naturally concreted on the branches of the tree. The salt, as Beaumé observes, may be obtained more expeditiously, by clarifying the decoction of the Tamarinds with whites of eggs, then filtering it, and evaporating it to a proper consistence, and setting it to cool: the salt shoots into crystals of a brown colour, and very acid taste; but in dissolving and crystallizing them again, or barely washing them with water, they lose almost all their acidity, the acid principle of the Tamarinds seeming not to be truly crystallizable." Vide *Lewis, M. M. p.* 633.

POLYGALA SENEGA. RATTLESNAKE-ROOT MILK WORT.

SYNONYMA. Seneka. *Pharm. Lond.* & *Edinb.* Polygala marilandica, caule non ramoso, spica in fastigio singulari gracili e flosculis albis composita. *Raii App. vel. Hist. tom. iii. p.* 670. Polygala caule simplici erecto, foliis ovato-lanceolatis alternis integerrimis, racemo terminali erecto. *Gron. Flor. Virgin. i. p.* 80. Polygala Senega. *Amœn Acad. Tom. iii. p.* 124. *Miller's Dict. Fig. Ed.* 7. Senegau. *Trew. Comm. Litt. Nor.* 1741. *Tab.* 4.

Class Diadelphia. *Ord.* Octandria. *Lin. Gen. Plant.* 851.

Ess. Gen. Ch. *Cal.* 5-phyllus: foliolis alæformibus, coloratis. *Legumen* obcordatum, biloculare.

Sp. Ch. P. floribus imberbibus spicatis, caule erecto herbaceo simplicissimo, foliis lato-lanceolatis.

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THE root is perennial, woody, branched, contorted, about the thickness of a finger, and covered with ash-coloured bark: it sends up several stems, which are simple, erect, slender, round, smooth, of a dark reddish colour, and rise nearly a foot in height: the leaves are oblong, or lance-shaped, acutely pointed, of a pale green colour, and stand alternately upon short footstalks: the flowers appear in June, they are white, of the papilionaceous kind, and grow in a close terminal spike: the calyx is divided into three narrow persistent segments, two of which are placed beneath and one above the corolla: the corolla is composed of two exterior petals, or *wings*, which are flat, and of an oval shape; a short tubular *standard*, undivided at the mouth; and a flattened *keel* distended towards the end, from whence proceeds a pencil-shaped appendage: the filaments are eight, united at the base into two portions, and supplied with simple antheræ: the germen is oblong, and supports a simple erect style, furnished with a cloven stigma: the capsule is inversely heart-shaped, and contains several small oblong seeds.

This plant is a native of Virginia, and other parts of North America. It was first cultivated in England in 1759, by Mr. P. Miller,[a] who has published a figure of it, which will be found to accord very accurately with the icon here annexed, which was drawn from the plant now in flower at the Royal garden at Kew. "This root, of no remarkable smell, has a peculiar kind of subtile pungent penetrating taste.[b] Its virtue is extracted both by water and spirit, though the powder in substance is supposed to be more effectual than either the decoction or tincture. The watery decoction, on first tasting, seems not unpleasant, but the peculiar pungency of the root quickly discovers itself, spreading through the fauces, or exciting a copious discharge of saliva, and frequently, as Linnæus observes, a short cough: those to whom I

[a] *Dict. Ed.* 7. *n.* 5. *See Hort. Kew.*

[b] Bergius says, "Sapor primum calidiusculus, deinde acidulus in faucibus sentitur cum specie acrimoniæ, inhærens cum siccitate." M. M. p. 596.

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have directed this medicine, have generally found a little Madeira most effectual for removing its taste from the mouth, and making it sit easy on the stomach. A tincture of the root, in rectified spirit, is of more fiery pungency, extremely durable in the mouth and throat, and apt to promote vomiting or reaching."[c] Rattlesnake-root was first introduced to the attention of physicians about sixty years ago, by Dr. John Tennent,[d] whose intercourse with the Indian nations led him to discover that they possessed a specific medicine against the poison of the rattlesnake,‖ which, in consequence of a suitable reward, was revealed to him, and found to be the root of this plant, which the Indians employed both internally and externally.[e] Cases afterwards occured, by which he was fully convinced of the efficacy of this medicine from his own experience. And as the Doctor observed, that pleuretic or peripneumonic symptoms† were generally produced by the action of this poison, he hence inferred, that the Rattlesnake-root might also be an useful remedy in diseases of this kind. It was accordingly tried in pleurisies not only by Tennent himself,[f] but by several of the French academicians and others,[g] who all unite in testimony of its good effects. However, in many of these cases, recourse was had to the lancet, and even the warmest advocates for the Seneka say, that in the true pleurisy repeated bleeding is at the same time

[c] Lewis, *M. M. p.* 518. [d] See his *Physical Disquisitions*, *P.* 2. *Lond.* 1735.

‖ A fortiori, it is presumed to cure the poisonous effects of other serpents, as being less virulent. Testatur exemplum anciliæ Suecicæ, quæ alvi dejiciendæ causa ruri pone fruticem secedens a serpente quodam (Colubro Bero sine dubio) et in mulieribus ipsis vulnerabatur sub gravissimorum sypmtomatum satellitio, sed duabus unice dosibus ab ill. a Linné subministratis convaluit. *Amœn. Acad. vol. vi. p.* 214.

[e] Chewed and applied to the wound, or in the form of a cataplasm.

† As difficulty of breathing, cough, hæmoptysis, a strong quick pulse, &c.

[f] See his *Ess. on the Pleurisy. Philad.* 1736. Also his *Epistle to Dr. Mead.*

[g] Lemery, De Jessieu, Du Hamel, Bouvart, for which see *Mem. de l'Acad. de Paris*, 1739, & 1744.

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not to be neglected. The repute which this root obtained in peripneumonic affections, induced some to employ it in other inflammatory disorders, in which it proved serviceable, particularly in rheumatism.[h] It has also been prescribed with much success in dropsies,[i] and this we can the more easily credit from its effects in increasing the different secretions, for it is remarked that it produces a plentiful spitting, increases perspiration and urine, and frequently purges or vomits. It is likewise reported to be a medicine of great power, in rendering the siziness of the blood more fluid; De Haen however brings a strong fact to contradict this opinion.[k] The usual dose is from one scruple to two of the powder, or two or three spoonfuls of a decoction, prepared by boiling an ounce of the root in a pint and a half of water till it is reduced to one pint.

[h] *Comm. Noric.* 1741. *p.* 362. Sarcone *Geschichte d. Krankh. in Neapel, tom. i. p.* 108, 169, 173, 199. And Dr. Cullen says, "We have had some instances of its being useful, especially where it operated by producing sweat." *M. M. vol. ii. p.* 533.

[i] Bouvart. l. c. Mackenzie, *Med. Obs. & Inq. vol. ii. p.* 289. See also Percival, *Essays, vol. ii.* 178.

[k] *Ratio Medend. P.* 4. *p.* 252.

HÆMATOXYLUM CAMPECHIANUM. LOGWOOD.

SYNONYMA. Lignum Campechense. Pharm. Lond. & Edinb. Hæmatoxylum spinosum, foliis pinnatis, racemis terminalibus. *Browne's Jam.* 221. Lignum Campechianum, species quædam Brasil. Vide *Sloane's Jam.* vol. 2. p. 183. Crista pavonis Coronillæ folio secunda, sive tinctoria Indica, flore luteo racemoso minore, siliqua latissima glabra, lignum rubrum, *Sappan* dictum ferens. *Breyn. Prodr.* 2. 37. Erythroxylum, sive

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lignum rubrum Indicum spinosissimum, coluteæ foliis, floribus luteis, siliquis maximis. *Herm. Par. Bat.* 333. Hæmatoxylum. *Long's Jam.* vol. 3. p. 754. *Miller's Dict. Jacquin, Ob. Bot.* 1. p. 20.

Class Decandria. *Order* Monogynia. *L. Gen. Plant.* 525.

Ess. Gen. Ch. Cal. 5-partitus. *Petala* 5. *Caps.* lanceolata, 1-locularis, 2-valvis: valvis navicularibus.

THE Campechianum is the only species of the Hæmatoxylum hitherto discovered; it is a much smaller tree than the Guaiacum, and both the trunk and the branches are extremely crooked, and covered with dark-coloured rough bark; the smaller ramifications are numerous, close, prickly, or beset with strong sharp spines; the leaves are pinnated, generally composed of four or five pair of pinnæ, of an irregular oval shape, obliquely nerved, and obtusely situated at the top; the flowers grow in racemi, or in close regular terminal spikes, and appear in March; the calyx divides into five oblong obtuse segments, of a brownish purple colour; the petals are five, patent, obtusely lance-shaped, and of a reddish yellow colour; the stamina are somewhat hairy, tapering, of unequal length, shorter than the corolla, and the antheræ are small and oval; the style is nearly the length of the stamina, and the germen becomes a long double valved pod, which contains many oblong compressed, or somewhat kidney-shaped seeds.

This tree is a native of South America, and grows to the highest perfection at Campeachy, in the Bay of Honduras, whence the seeds were brought to Jamaica, in 1715, with a view of propagating it as an article of commercial export. And though it does not appear to have answered this purpose so fully as could have been wished, yet we are told that in some parts of the island, especially where the ground is swampy, this tree, in the course of three years, will rise to the height of ten feet, and by this quick and luxuriant growth, soon overrun and destroy the neighbouring

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plants.[a] The Logwood tree was first cultivated in Britain by Mr. P. Miller in 1739,[b] who says, "there are some of these plants now in England which are upwards of six feet high, and as thriving as those in their native soil;"[c] but this observation will not apply to the present time, for we have searched in vain for this plant through most of the principal garden stoves in the neighbourhood of London.

The wood of this tree is of a solid texture, and of a dark red colour; it is imported into Europe principally as a dying drug, cut into junks or logs of about three feet in length; of these pieces, the largest and thickest are preferred, as being of the deepest colour. This wood has a sweetish subastringent taste, and no remarkable smell; it gives a purplish red tincture both to watery and spirituous infusions, and tinges the stools, and sometimes the urine, of the same colour; but from the experiments of Du Hamel and others, it does not appear to colour the bones of animals, as observed of madder and some other plants of that class. It is used medicinally as an astringent and corroborant. In diarrhœas it has been found peculiarly efficacious, and has the recommendation of some of the first medical authorities:[d] also in the latter stages of dysentery, when the obstructing causes are removed, to obviate that extreme laxity of the intestines usually superinduced by the repeated dejections. Extractum ligni campechensis is ordered in the pharmacopœias, and may be given in the dose of one scruple or two, repeated according to the urgency of the symptoms.

[a] In some parts of Jamaica "are such quantities of it growing wild, as to incommode the land-holders extremely." Long's l. c. 754. He also observes, that "it makes an excellent and beautiful fence, which, if kept properly trimmed, grows so strong and thick, that nothing can break through."

[b] Hort. Kew. [c] Dictionary abridged, sixth edition. [d] Baker, Clark, Pringle, Duncan, Zimmerman, Baldinger, and others.

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FUMARIA OFFICINALIS. COMMON FUMITORY.

SYNONYMA. Fumaria. *Pharm. Edinb.* Fumaria officinarum et Dioscoridis. *Bauh. Pin. p.* 143. Fumaria purpurea. *Gerard. Emac. p.* 1088. Fumaria vulgaris. *Park. Theat. p.* 287. *Raii Hist. p.* 405. *Synop. p.* 284. Fumaria foliis multifidis lobis subrotunde lanceolatis; fructibus monospermis. *Hal. Stirp. Helv. n.* 346. *Hudson Flor. Ang. p.* 270. *Lightfoot Flor. Scot. p.* 379. *Curtis Flor. Lond. n.* 112. *Withering. Bot. Arrang. p.* 751.

Class Diadelphia. *Ord.* Hexandria. *Lin. Gen. Plant.* 849.

Ess. Gen. Ch. Cal. dyphyllus. *Cor.* ringens. *Filamenta* 2. membranacea, singula *Antheris* 3.

Sp. Ch. F. pericarpiis monospermis racemosis, caule diffuso.

THE root is annual, slender, and fibrous: the stalk is spreading, smooth, somewhat angular, bending, much branched, and usually rises above a foot in height: the leaves are compound, doubly pinnated, pinnulæ trilobed, of a pale green colour, and standing upon slender footstalks: the flowers are of a reddish purple colour, and grow in spikes, which arise from the axillæ of the leaves: the bracteæ are linear, purplish, and placed at the base of the peduncles: the calyx is composed of two deciduous equal leafits, slightly indented at the edges: the corolla is oblong, tubular, gaping, or ringent, the palate projecting so as to fill up the mouth; the *upper lip* dilated at the tip, keel-shaped, hollow beneath, turned a little upwards at the margin, and at the base obtuse, and curled inward; the *lower lip* is nearly similar to the upper; the *lateral petals* cohere at the top, and form a quadrangular mouth, in which there are three divisions on the upper and lower part: the filaments are two, membranous, broad at the base, and each furnished with

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three yellowish antheræ: the germen is oval: the style is filiform, about the length of the filaments, and crowned with a flattish downy stigma: the seed is roundish, and contained in a small heart-shaped pod. Fumitory is common in corn fields, and usually flowers in May.

By the Ancients this plant was named Capnos,[a] from being thought to be peculiarly useful in dimness of sight, and other diseases of the eyes. The leaves, which are the part of the plant directed for medicinal use by the Edinburgh College, are extremely succulent, and have no remarkable smell, but a bitter somewhat saline taste. "The expressed juice, and a decoction of the leaves in water, inspissated to the consistence of extracts, are very bitter, and considerably saline; on standing for some time they throw up to the surface copious saline efflorescences, in figure somewhat resembling the crystals of nitre, to the taste bitterish and slightly pungent. A tincture of the dry leaves, in rectified spirit, yields, on inspissation, an extract less in quantity and bitterer in taste than either the watery extract or inspissated juice."[b] Fumitory has been supposed by several Physicians of great authority,[c] both ancient and modern, to be very efficacious in opening obstructions and infarctions of the viscera, particularly those of the hepatic system: it is also highly commended for its power of correcting a scorbutic and acrimonious state of the fluids; and has therefore been employed in various cutaneous diseases; when taken in pretty large doses it proves diuretic and laxative, especially the juice, which may be mixed with whey, and used as

[a] Καπνος Dioscor. Καπνος Gal. i. e. fumus—"Claritatem facit inunctis oculis, delachrymationemque, ceu fumus; unde nomen." *Plin. L.* 25. *cap.* 13. See also Galen. Simp. *Lib.* 7. *p.* 49.

[b] *Lewis M. M. p.* 315.

[c] Aetius, Boerhaave, F. Hoffman, and many others.

The juice of Dandelion and Fumitory is greatly commended by Leidenfrost in obstinate diseases of the skin. See *Diss. de succis herb. &c.*

An infusion of the leaves is used as a cosmetic to remove freckles and clear the skin.

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a common drink. Dr. Cullen classes this plant among the tonics; he says, "it is omitted in the London dispensatory, but retained in ours, and in every other that I know of. I have found it useful in many cases in which bitters are prescribed; but its remarkable virtues are those of clearing the skin of many disorders. For this it has been much commended; and I have myself experienced its good effects in many instances of cutaneous affections, which I would call Lepra. I have commonly used it by expressing the juice, and giving that to two ounces twice a day: but I find the virtues remain in the dried plant, so that they may be extracted by infusion or decoction in water; and the foreign dispensatories have prepared an extract of it, to which they ascribe all the virtues of the fresh plant."[a]

[a] *M. M. vol. ii. p. 77.*

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ORD. XXVI. MULTISILIQUÆ.

(From *Multus*, many, and *Siliqua*, a Pod.)

Plants which have more seed vessels than one.

ACONITUM NAPELLUS. COMMON WOLF's-BANE, Or MONK's HOOD.

SYNONYMA. Aconitum, Pharm. Lond. & Edinb. Stoerck tab. 3. *Aconitum* cæruleum seu Napellus, *Bauh. Pin.* 183. *Aconitum* caule simplici, spica densa, petiolis unifloris, cassidè breviter mucronata, *Hal. Stirp. Helv.* No. 1197, *vires autem*, No. 1198. *Aconitum* verus cæruleus, *Gerard. Aconitum, Spec.* 1, *Rati. Napellus, Matth. Camerar. Dodon. &c.*

Class Polyandria. *Order* Trigynia. L. *Gen. Plant.* 682.

Ess. Gen. Ch. Cal. 0. *Petala* 5: supremo fornicato. *Nectaria* 2, pedunculata, recurva. *Siliquæ*, 3 s. 5.

Sp. Ch. A. foliorum laciniis linearibus superne latioribus linea exaratis.

THE root is perennial, turnip-shaped, or more commonly fusiform; the stalk is simple, erect, strong, beset with many leaves, and grows from two to five feet high: the leaves are lobed, deeply laciniated, and stand alternately upon long footstalks, but the upper leaves are almost sessile, and the laciniæ much broader

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than those towards the bottom of the stem; the superior pagina of the leaf is of a dark green colour, but the under pagina is whitish; the peduncles are generally unifloral, erect, and villous; the flowers terminate the stalk, are without calyces, and grow in a long racemus or spike; each flower consists of five petals, which include two nectaries, the uppermost petal is arched over the lateral ones, so as to appear helmet-shaped, or hooded; they are all of a purplish or deep violet colour: the pistilla, (according to Jacquin) are three, four, and sometimes five. The Aconitum is a native of the mountainous and woody parts of Germany, France, and Switzerland; but since the time of Gerard, it has been cultivated for ornament in most of the flower-gardens in this country.

The figure of this plant given by Stoerck, is supposed, by Haller and Bergius to be the Aconitum Cammarum of Linnæus: Murray, however, is of a different opinion; and upon comparing Stoerck's Aconitum with the Cammarum and Napellus, as delineated by Jacquin, (Flor. Aust.) we have no hesitation in referring it to the latter.*

Every part of the fresh plant is strongly poisonous, but the root is unquestionably the most powerful, and when first chewed imparts a slight sensation of acrimony, but afterwards, an insensibility, or stupor at the apex of the tongue, and a pungent heat of the lips, gums, palate, and fauces, are perceived, followed with a general tremor and sensation of chilliness. Though the plant loses much of its power by drying, yet Stoerck observes that, when powdered and put upon the tongue, it excites a durable sense of heat, and sharp wandering[a] pains, but without redness or inflammation. The juice applied to a wound, seemed to affect the

* In the Cammarum the top of the flower rises much higher, and forms a more acute angle; the flowers are of a fainter blue colour, and the racemus is always shorter than that of the Napellus.

[a] Reinhold, however, describes the leaves of this plant, when dry, as almost insipid. Diss. de Aconit. Napello.

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whole nervous system;[b] even by keeping it long in the hand, or on the bosom, we are told unpleasant symptoms have been produced.[c] That the ancients considered the Aconitum to be the most destructive of vegetable productions, appears from their fanciful derivation of its origin: "ut ab Hecate inventum aut ex Cerberi "spuma enatum pronunciarent;" and Ray says, "Napellus ve- "nenorum praesentaneorum facilè princeps."[d] The deleterious effects of this plant, like those of most vegetable poisons, are produced by its immediate action upon the nervous energy; for of the different animals[e] which have been destroyed by it, we find but one instance, wherein upon dissection, marks of organic disease[f] were discovered, and this, as well as those respecting the Belladonna, we attribute to the action of secondary causes.

The fatal symptoms brought on by this poison, are thus stated by Haller: "Intus adsumtus Napellus vomitum movet, convul- "siones, rigorem, vertiginem, maniam, hypercatharses, sursum

[b] The juice was applied to a wound of the finger, which not only produced pains in the hand and arm, but cardialgia, great anxiety, a sense of suffocation, syncope, &c. and the wounded part sphacelated before it came to suppuration. Rödder in Alberti Jurisp. Med. t. 6. p. 724.

[c] If this be admitted, it must be referred to a peculiar idiosyncrasy of the body rather than to the power of the plant. Murray, Apparat. Med. vol. 3. p. 12.

[d] Ray observes that the Napellus loses much of its virulency by being transplanted from the mountains into our gardens; and this observation has been confirmed by the experiment of D. Martinus Bernhardus a Berniz, in Ephem. Germ. ann. 2. Observ. 22. (Ray, Hist. Plant. p. 702.) and for farther confirmation see Pet. Joh. Faber in Pauth. l. 1. cap. 43.

[e] The root of the Napellus is an immediate poison to almost all animals, but actual experiments with it have been made upon wolves, cats, dogs, mice, &c. See Wepfer, Hist. de Cicut. p. 176. de Napello. Phil. Transact. vol. 27. p. 488. Sprögel Diss. Exper. circa venena, p. 6. Hallefeld, p. 23. Ehrhart, vide Reinhold, Diss. cit. Cows and Goats, by being forced to eat this plant, perished. Moraeus Fil. in K. Vet. Acad. Handl. 1745. p. 217.

[f] This was a wolf, wherein marks of inflammation of the stomach were discovered. Wepfer, l. c. p. 180.

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" & deorsum erumpentes, tum ventris tumores, & alia gravissima " symptomata, sudorem frigidum, asphyxiam."[g] Stoerck appears to be the first who gave the Wolf's-bane internally, as a medicine; and since his experiments were published, in 1702, it has been generally and often successfully employed in Germany, and the northern parts of Europe, particularly as a remedy for obstinate rheumatisms: and many cases are related where this disease was of several years duration, and had withstood the efficacy of other powerful medicines, as mercury, opium, antimony, cicuta, &c. yet, in a short time, were entirely cured by the Aconitum.[h] Instances are also given us of its good effects in gout, scrophulous swellings, venereal nodes, amaurosis, intermittent fevers, &c.[i] Bergius describes its *Virtus* to be pellens, sudorifera, diuretica, subvertiginosa; *recens* venenata: *Usus,* rheumatismus, arthritis, malum ischiadicum.

[g] N. 1198. l. c. These symptoms are collected from a number of fatal instances of its poisonous effects, some of which we shall mention. The root was given by way of experiment to four condemned criminals, two at Rome, in the year 1524, and two at Prague, in 1561, of whom two soon perished, the other two, with great difficulty, recovered. Matthiol. in Dioscorid. p. 768. It has frequently been eaten by mistake for other plants, and proved fatal. Willis de Anima brutor. p. 289. Dodon. Stirp. Pempt. L. 4. p. 442. Bacon, Philos. Trans. vol. 38. p. 284. And the following remarkable fact is said to have happened at Sweden:—A person having eaten some of the fresh leaves of the Napellus, became maniacal, and the surgeon who was called to his assistance declared, that the plant was not the cause of the disorder; and, to convince the company that it was perfectly innocent, he eat freely of its leaves; but he suffered by his temerity, for soon after he died in great agony. Moraeus, l. c. 1739. p. 41.

[h] Stoerck libell. de stramon, &c. Contin. Exper. Libell. de Pulsatill. Nig. p. 58. Rosenstein, Hall Epist. vol. 5. p. 174. Collin Observ. pars. 2. Blom Vet. Acad. Handl. 1773. p. 258. Odhelius, ibid. 1776. p. 68. Hast, Med. Virkets tilstand, p. 307. Ribe, vide Reinhold Diss. p. 37. Comment. de rebus, vol. 2. p. 240. Diss. de usu salutari Extr. Acon. in Arthritide pres. Böhmer Hal. 1768. a pag 10 ad 13. Aug. Phil. Gesner. Beobacht a. d. Arzn. vol. 1. p. 196. Tode, Med. chir. Bib. vol. 2. P. 1. p. 120. Tritze Mediz. Annalen. vol. 1. p. 327. Stöller, Beob. u. Erf. p. 146. Stoll Rat. Medend. P. 3. p. 167.

[i] See the authors referred to above.

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This plant has been generally prepared as an extract or inspissated juice, after the manner directed in the Edinburgh and many of the foreign pharmacopœias,[k] and like all virulent medicines, it should be first administered in small doses. Stoerck recommends two grains of the extract to be rubbed into a powder, with two drams of sugar, and to begin with ten grains of this powder two or three times a day. We find however, that the extract is often given from one grain to ten for a dose, and Stoll, Schenckbecher, and others, increased this quantity very considerably. Instead of the extract, a tincture has been made of the dried leaves, macerated in six times their weight of spirits of wine, and forty drops given for a dose.

[k] Its efficacy is much diminished on being long kept.

DICTAMNUS ALBUS. WHITE FRAXINELLA, Or, BASTARD DITTANY.

SYNONYMA. Dictamnus albus. *Pharm. Edinb.* Dictamnus albus sive Fraxinella. *Bauh. Pin. p.* 222. Fraxinella. *Gerard Emac. p.* 1245. *Morris, Hist. iii. p.* 456. *Tourn. Inst. p.* 430. Fraxinella flore purpureo & albo. *Park. Parad. p.* 333. Fraxinella, &c. *Raii Hist. p.* 698. *J. Bauh. iii. p.* 494. *Hal. Stirp. Helv. n.* 1029. *Miller's Figures, tab.* 123. *Jacquin, Flor. Aust. tab.* 428. α Flore niveo. β Flore rubro.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 522.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Petala* 5, patula. *Filamenta* punctis glandulosis adspersa. *Caps.* 5, coalitæ.

Sp. Ch. C. foliis pinnatis caule simplici. *Supp. p.* 333.

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THE root is perennial, and sends off many long spreading fibres: the leaves are pinnated and large; pinnæ elliptical, veined, pointed, slightly serrated, stand in pairs, and are terminated by an odd one, which is the largest: the stalk is round, smooth, erect, and rises about a foot and a half in height: the bracteæ are stipular, and placed singly at the base of the peduncles: the flowers appear from May till July; they are numerous, large, white, terminate the stem, and stand alternately upon long peduncles, which towards the top are bent downwards, and beset with small glands; the corolla is composed of five white petals, of an obversely oval shape, and inserted into the calyx by long claws: the calyx is rough, and divided into five short segments: the filaments are ten, about the length of the corolla, marked with minute glands, and furnished with large antheræ: the germen is pentangular: the style short, tapering, and supplied with a pointed stigma: the seed vessels are five united capsules, each of which contains two small oval seeds.

This plant, which is commonly called Fraxinella,* is a native of France, Germany, and Italy. It was cultivated here by Gerard, and frequently adorns the borders of our flower gardens, especially the red variety, which is the handsomer plant. It emits a fragrant bituminous odour, which seems to be the essential oil of the herb, secreted by numerous small glands, with which the peduncles and filaments are abundantly furnished. These odorous effluvia are so very inflammable, that on the application of flame, they take fire, especially on the evening of a hot dry day.[a]

The root, which is the part directed for medicinal use, "when fresh, has a moderately strong, not disagreeable smell, but as met with in the shops it has scarcely any. To the taste it discovers a pretty strong and very durable bitterness, which is taken up both by watery and spirituous menstrua, and on inspissating the filtered

* From the resemblance its leaves have to those of the ash.

[a] Vide Du Hamel, *Phys. des arbres, tom. i. p.* 150. Nollet, *Cours. de Phys. vol. i. p.* 300.

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tinctures, remains entire in the extracts: the aqueous extract is in much larger quantity than the spirituous, and proportionably weaker in taste."[b]

Formerly this root was used as a stomachic, tonic, and alexipharmic, and was supposed to be a medicine of much efficacy in removing uterine obstructions, and destroying worms;[c] but its medicinal powers became so little regarded by modern physicians, that it had fallen almost entirely into disuse, till Baron Stoerck brought it into notice by publishing several cases of its success,[d] viz. in tertian intermittents, worms, (lumbrici) and menstrual suppressions. In all these cases he employed the powdered root to the extent of a scruple twice a day. He also made use of a tincture, prepared of two ounces of the fresh root digested in fourteen ounces of spirit of wine; of this twenty to fifty drops, two or three times a day, were successfully prescribed in epilepsies, &c. and when joined with steel, this root, we are told, was of great service to chlorotic patients.

The Dictamnus undoubtedly is a medicine of considerable power; but, notwithstanding the account of it given by Stoerck, who seems to have paid little attention to its modus operandi, we may still say with Haller, "Nodum autem vires pro dignitate exploratus est." l. c.

[b] *Lewis, M. M. p.* 274.

[c] See Geier, *Dictamnographia. Buchner Diss. de Fraxinella.* Matthiolus says, "ad multa utilis est." *p.* 523.

[d] Vide *libell. de Flammula Jovis, Dictamno albo, &c.*

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ANEMONE PRATENSIS. MEADOW ANEMONE; Or, PASQUE FLOWER.

SYNONYMA. Pulsatilla nigricans. *Pharm. Edinb.* Pulsatilla flore minore nigricante. *Bauh. Pin. p.* 177. Pulsatilla flore minore. *Gerard. Emac. p.* 386. Pulsatilla vulgaris, saturatiore flore. *Clus. Hist. i. p.* 246. Pulsatilla flore clauso obsoleto, petalis reflexis. *Helw. puls. p.* 65. *t.* 11. Pulsatilla foliis decompositis pinnatis, flore pendulo, limbo reflexo. *Hort. Cliff.* 223. A. pratensis. *Flor. Dan.* 611.

Class Polyandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 694.

Ess. Gen. Ch. *Cal.* 0. *Petala* 6-9. *Sem.* plura.

Sp. Ch. A pedunculo involucrato, petalis apice reflexis, foliis bipinnatis.

THE root is perennial, thick, short, and sends off several strong fibres: the flower stem is smooth, beset with soft hairs, near the top furnished with a laciniated involucrum, and rises about six or eight inches in height: the leaves are radical, bipinnated; segments narrow, short, linear, and of a glaucous green colour: it has no calyx: the petals are six, oblong, hairy, of a blackish purple colour, and their apices are turned backwards; the filaments are numerous, slender, about half the length of the petals, and furnished with yellow antheræ: the germens are numerous, collected into a bundle, and supplied with long styles, terminated by tapering blunt stigmata: the seeds are placed on the common receptacle, and retain their styles, which, when the seeds go off, resemble long downy tails.

This Anemone is a native of Germany, where it grows in open fields, and flowers in May. It was first cultivated in England by Mr. Miller in 1731, and as we now find it in our gardens, it very

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much resembles the Anemone Pulsatilla,[a] which grows wild in this country, and would doubtlessly prove a good substitute for the A. pratensis: the principal distinctions between these species, as they grow naturally, are taken from the flower, which in the A. pratensis is more pendulous, smaller, of a darker colour, and has the apices of the petals reflexed, the stem also is said to be less hairy, and shorter than that of the Pulsatilla.[b]

This plant, in its recent state, has scarcely any smell, but its taste is extremely acrid, and when chewed, corrodes the tongue and fauces; and the dried plant likewise still retains a considerable share of acrimony. It also appears from some experiments to contain a camphoraceous matter, which was obtained in the form of crystals, of an unctuous taste, and very inflammable.[c]

This plant, like several others of great activity, has been received into the Materia Medica of the Edinburgh Pharmacopœia, upon the authority of Baron Stoerck, who recommends it as an effectual remedy for most of the chronic diseases affecting the eye, particularly amaurosis, cataract, and opacity of the cornea, proceeding from various causes.[d] He likewise found it of great use in venereal nodes, nocturnal pains, ulcers, caries, indurated glands, suppressed menses, serpiginous eruptions, melancholy, and palsy. The Baron himself, who had for two years suffered much from a violent contusion of his eye, took this remedy, which he soon found occasioned a severe lancinating pain in the part affected: this he considered as a favourable omen of the specific action of the plant; an opinion which was afterwards confirmed in a great

[a] An elegant specimen of this plant is correctly figured in *English Botany*, fig. 51. from which it may be seen how closely it resembles that here annexed, which we obtained through the favour of Mr. Curtis.

[b] We might also add, upon the authority of the *Flor. Dan.* that the leaves of the *pratensis* are somewhat tomentose, while those of the Pulsatilla are of a bright green. See plates 153. and 611.

[c] See *Hann. Mag.* 1779. s. 105.

[d] *Lib. de Pulsatilla nigra.*

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number of patients. Six cases of amaurosis, three of cataract, and seven of affections of the cornea, we are told were either entirely cured, or greatly benefited, by the exhibition of this remedy. Several cases proving its success in the other disorders which we have noticed above, especially those of syphilis, are also related by the Baron. Many German physicians have since tried the effects of this medicine in diseases of the eyes, and with success; of these we may mention Guildbrand,[e] Hotz,[f] Mohrenheim:[g] several others however bear testimony of its inefficacy in these diseases, as Schmucker,[h] Bergius,[i] Richter,[k] who increased the dose of this vegetable even beyond that directed by Stoerck. Notwithstanding this, Dr. Cullen says, "I would still recommend "it to the attention of my countrymen, and particularly to a "repetition of trials in that disease, so frequently otherwise "incurable, the amaurosis. The negative experiments of Bergius "and others, are not sufficient to discourage all trials, considering "that the disease may depend upon different causes; some of "which may yield to remedies, though others do not."[l]

Every part of the plant, except its root, is ordered for medicinal use, and was by Baron Stoerck prepared for this purpose into an extract, a distilled water, and an infusion; but the first form seems to have been preferred, and was given from seven grains to three or four times that quantity, twice or thrice a day. In large doses it frequently excited nausea and vomiting, or produced griping pains of the bowels, and looseness, and very generally proved diuretic. The fluid preparations of the plant are likewise recommended for external use in ulcers and complaints of the skin. The manner of preparing the extract is given in the Edinburgh Pharmacopœia.

[e] Tode and Nielsen *Diss. de præstantiss. ratione illustrandi Mat. Med.* p. 11.
[f] Jo. Iac. Zimmermann. *Diss. obs. circa Mercur. Ext. Cicut. et Pulsatill.* §. 14. Argent. 1779. [g] *Chirurg. Beob. T.* 1. & 11.
[h] In *verm. chir. Schrift. t. ii. p.* 26. [i] *Mat. Med. p.* 491.
[k] Aug. Gottl. Richter *Chir. Bibl. vol.* 6. *p.* 584. [l] *Mat. Med. vol. ii. p.* 216.

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DELPHINIUM STAPHISAGRIA.

PALMATED LARKSPUR, Or, STAVESACRE.

SYNONYMA. Staphisagria. *Pharm. Lond. & Edinb. Bauh. Pin. p.* 324. *Dod. Pempt. p.* 366. *Gerard. Emac. p.* 495. *Raii Hist. p.* 705. *Park. Theat. p.* 222. *J. Bauh. Hist. iii. p.* 641. Delphinium Platani folio, Staphis agria dictum. *Tourn. Inst. p.* 428. Aconitum urens Ricini fere foliis, flore cæruleo magno, Staphis agria dictum. *Pluk. Almag. p.* 357.

Class Polyandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 681.

Ess. Gen. Ch. *Cal.* 0. *Petala* 5. *Nectarium* bifidum, postice cornutum. *Siliquæ* 3. s. 1.

Sp. Ch. D. nectariis tetraphyllis petalo brevioribus, foliis palmatis: lobis obtusis.

THE root is biennial: the stem is downy, smooth, erect, simple, purplish, and rises from one to two feet in height: the leaves are palmated, dividing into five or seven lobes, which are ovate or lance-shaped, veined, downy, and of a pale green colour: the leaf stalks are long, strong, downy, of the colour of the stem, from which they arise alternately, and are gradually shorter towards the top of the plant, so as to give the whole a regular conical shape: the flowers appear in June; they are large, bluish or purplish, stand upon long footstalks, and terminate the stalk in an open spike: there is no calyx: the corolla is composed of five egg-shaped spreading petals, of which the uppermost is extended backwards, so as to form a hollow spur or horn-like projection:* the nectarium is commonly divided into four leaves, which are less

* In some flowers we observed two spurs, in others but one, and the nectarium varied accordingly.

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than those of the corolla; the two superior are narrow, small, erect, and at the base drawn out into spurs like that of the petal, in which they are both inclosed; the other two are roundish, and plaited at the edges: the[a] filaments are about twenty, short, tapering, and crowned with large yellow antheræ: the germens are three, closely compressing each other, tapering, very downy, and supplied with filiform short styles, terminated by simple stigmata: the three capsules are straight, oblong, tapering, and contain many rough, brown, triangular seeds.

Stavesacre, which is a native of the southern parts of Europe, was cultivated here in the time of Gerard:[b] it is a handsome plant, though less beautiful than many of the other species of Larkspur.

The seeds, which are the only part of the plant directed for medicinal use, are usually imported here from Italy; they are large, rough, of an irregular triangular figure, and of a blackish colour on the outside, but yellowish within; their smell is disagreeable, and somewhat fetid; to the taste they are very bitter, acrid, and nauseous. Their virtues are extracted partially by water, and completely by rectified spirit.

These seeds seem to have been known to the ancients,[c] by whom they were employed as a masticatory, for on being chewed they excite a copious flow of saliva, and on this account were recommended in tooth-achs, and other painful affections of the face and gums. The ancients also prescribed them with a view to their emetic and cathartic effects in doses of ten or fifteen grains:[d] but the deleterious narcotic qualities of Stavesacre were discovered to be so powerful as to forbid its internal use. Schultz, only by keeping it some time in his mouth, to relieve a tooth-ach, was for a time deprived of his senses;[e] and Hillefeld has related, that a dog, by taking five scruples of these seeds, became convulsed, and

[b] In 1596. Vide *Aiton's Hort. Kew.*

[a] Σταφις ἀγρια Dios. eadem videtur, licet Glasti flores adscribat. *Murr. App. Med. vol. iii. p.* 32.

[d] Vide *Dioscor. & De la Boe Sylvius. De purg. &c.*

[e] See his *Mat. Med. p.* 435.

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soon died.[f] Stavesacre is now therefore confined to external use in some kinds of cutaneous eruption, but more especially for destroying lice and other insects; and by its efficacy in this way, this plant, in most of the European languages, is distinguished by the name of Louse-wort.

[f] *Diss. de Venen. p.* 20.

HELLEBORUS NIGER. BLACK HELLEBORE, Or, CHRISTMAS ROSE.

SYNONYMA. Helleborus Niger, seu Melampodium.[a] *Pharm. Lond. & Edin.* Helleborus Niger legitimus. *Clus. Hist.* 274. Helleborus Niger flore roseo. *Bauh. Pin.* 186. Helleborus Niger flore albo; interdum etiam valde rubente. *J. Bauh.* 3. 635. Helleborus Niger verus. *Gerard's Herb.* 975. *True Black Hellebore,* or Christmas Flower. *Raii Hist. Plant.* 697. An nostra planta sit Ελλεβορος μελας et Μελαμποδιον Græcor. et Helleborus, Elleborus, Veratrum, Latinorum, nihil certi pronunciari possit.

Class Polyandria. *Order* Polygynia. *L. Gen. Plant.* 702.

Ess. Gen. Ch. Cal. 0. *Petala* 5 s. plura. *Nectaria* bilabiata, tubulata. *Caps.* polyspermæ, erectiusculæ.

Sp. Ch. H. Scapo subbiflore subnudo, foliis pedatis.

THE root is perennial, rough, knotted, and externally of a black colour, internally whitish, sending off many strong round long fibres; the flower stalks are erect, round, tapering, and

[a] A Melampo qui primus purgationem instituit: unde καθαρτης, id est purgator nominatus fuit, & hocce medicamento Prœti filias in furorem actas persanavit. Geoff.

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towards the bottom reddish; the bracteal leaves supply the place of the calyx, and are oval, concave, and generally indented at the top; the petals are five, large, roundish, spreading, at first of a white colour, succeeded by reddish tints, but finally putting on a greenish appearance; the nectaria are about eight in number, tubulated, somewhat compressed, bilabiated, and of a greenish yellow colour; the filaments are white, the antheræ yellow; the germina vary, commonly from four to eight, and the capsules, or pods, contain many oval shining blackish seeds; the leaves are compound, divided in a peculiar manner, or pedated, and stand upon long radical footstalks; the simple leaf is elliptical, smooth, thick, and serrated towards the top. This plant is a native of Austria and Italy, and was unknown to the gardens in this country till cultivated by Mr. John Gerard in 1596. If the weather be sufficiently mild, it flowers in January, and hence the name of Christmas Flower.

If any arguments were required to evince the necessity of botanical accuracy in discriminating medicinal plants, the Helleborus Niger would furnish us with many facts from which such arguments might be deduced. For many instances are recorded of the effects of this plant, by which it since appears that other plants were mistaken for it, and actually employed; of these we may enumerate the Helleborus viridis, Adonis vernalis, Trollius europæus, Actæa spicata, Astrantia major, and Aconitum Napellus;[b] and as the roots of these plants possess very different powers, we cannot be surprised that the medical history of this root is not only confused and contradictory, but calculated to produce very mischievous and even fatal consequences.

The taste of the fresh root is bitterish, and somewhat acrid, and according to Grew, "being chewed, and for some time retained upon the tongue, after a few minutes it seemeth to be benumbed, and affected with a kind of paralytic stupor, or as when it has been

[b] Probably art, as well as ignorance, had some share in these substitutions; for the particulars of which see Murray's Ap. Med. vol. 3. from p. 44. to p. 50.

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burnt with eating or supping any thing too hot."[c] It also emits a nauseous acrid smell, but being long kept, both its sensible qualities and medicinal activity suffer very considerable diminution. Bergius has very properly attended to this circumstance, for in defining its virtues he considers it under three different degrees of dryness:[d] "VIRTUS: *rec.* venenata, rubefaciens, vesicans; *recenter siccatæ:* emetica, purgans, emmenagoga, antiphthiriaca, sternutatoria; *diu conservatæ:* vix purgans, alterans, diuretica." Although many writers consider this root to be a perfectly innocent and safe medicine, yet we find several proofs of its poisonous effects,[e] from which Murray collects the following symptoms:—"Fateor, dispersas hinc inde extare observationes contrarias, querelas moveri de vomitionibus effrænis inde contractis, hypercatharsi, torminibus, anxietate, siti, singultu, animi deliquiis, sudoribus frigidis, faucium strangulatione, convulsionibus, sternutatione, torpore quodum artuum et insueta rigiditate, inflammatione ventriculi et intestinorum, quin morte pedissequa præviis variis dictis malis."

It seems to have been principally from its purgative quality that the ancients esteemed this root such a powerful remedy in maniacal disorders, with a view to evacuate the *atra bilis,* from which these mental diseases were supposed to be produced; but though evacuations be often found necessary in various cases of alienations of mind, yet as they can be procured with more certainty and safety by other medicines, this catholicon of antiquity

[c] On tastes, vide Anatomy of Plants, p. 283.

[d] Mat. Med. p. 496.

[e] Vide Doering De Medicina et Medicis, p. 242. Act. Helv. vol. 5. p. 326. Buchner Diss. de salut. et noxio Ellebori Nigri usu. p. 22. Hildanus Obs. Med. chir. cent. 4. obs. 12. Scopoli Fl. carn. ed. 1. p. 557. Morgagni de sed. & caus. morb. Epist. 59. art. 15. et Act. Helv. l. c. Hartman Vet. Acad. Handl. a 1762. p. 276. Schultz Mat. Med. p. 152.

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is now almost entirely abandoned.[f] At present it is looked upon chiefly as an alterative, and in this light is frequently employed in small doses for attenuating viscid humours, promoting the uterine and urinary discharges, and opening inveterate obstructions of the remoter glands:[g] it often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual, or improper.[h] It is also recommended in dropsies,[i] and some cutaneous diseases.[k] The watery extract of this root, made after the manner directed in the pharmacopœias, is one of the best and safest preparations of it,[l] when designed for a cathartic, as it contains both the purgative and diuretic parts of the Hellebore; it may be given in a dose from ten grains to a scruple, or more. A tincture of this drug is also ordered in the pharmacopœias, which is preferred for the purposes of an alterative and deobstruent; of which a tea-spoonful twice a day may be considered as a common dose.

[f] Whether our Hellebore be the same species as that said to grow in the island of Anticyra, and about Mount Olympus, so frequently alluded to by the Latin poets, is no easy matter to determine. From the accounts of Tournefort and Bellonius, who botanized these places, a species of this plant was found in great plenty, which the former supposes to be the Hellebore of Hippocrates; it differs from the species here figured, by having a large branched stem, and also by its effects, for he found that a scruple of the extract brought on violent spasms and convulsions. Many plants however are known to vary as much by a removal from their native soil and climate.

[g] Duncan's Ed. New Dispensatory. Lewis's Mat. Med.

[h] Mead, (mon. et præc. med. p. 138) speaks of it as the most potent of all emmenagogues; but Home (clin. exper. & hist. p. 836) and Pasta (Dissertaz. mediche sopra i mestrui delle Donne, p. 192 found it often successful.

[i] By Avicenna, Gesner, Klein, Milman, and Bacher whose famous *tonic pills* are thus prepared: ℞ Ext. Helleb. Nig. Myrrhæ Solutæ aa ʒj pulv. Card. bened. ʒiij M. F. s. a. Massa aëre sicco exsiccanda, donec formandis pilulis apta sit, singul. ad gran. semiss. [k] In the lepra Græcorum. Vide Aretæus Oper. ed. Boerh. p. 136. Schmidel Diss. de lepra in Haller's collect. Disp. pract. T. 6. p. 83. And Hildanus mentions the case of a girl who was cured of an obstinate scabies of the face by this extract. l. c. [l] The irritating power of its active matter being considerably abated by the boiling. Lewis's M. M.

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HELLEBORUS FOETIDUS. FETID HELLEBORE, Or, BEAR's-FOOT.

SYNONYMA. Helleboraster. Pharm. Lond. Helleborus Niger Fœtidus. *Bauh. Pin.* 185. Helleboraster maximus flore & semine prægnans. *Lobel.* p. 679. Helleboraster maximus. *Gerard. Herb.* p. 977. Helleborus maximus sive Consiligo. *Park.* t. 212. Helleborus caule ramoso, multifloro, foliis multipartitis, serratis, stipulis ovato-lanceolatis, coloratis. *Haller's Stirp. Helv.* p. 1193. Elleborus niger sylvestris adulterinus etiam hyeme virens. *J. Bauh.* 3. p. 880. Veratrum nigrum 3. *Dodon. Pempt.* 382. *Great Black Hellebore,* or Bear's Foot. *Setterwort, Raii Synopsis,* p. 271. *Withering's Bot. Arrang.* 582. *Relhan's Flor. Cant.* p. 218.

Class Polyandria. *Ord.* Polygynia. *L. Gen. Plant.* 702.

Ess. Gen. Ch. Cal. 0. *Petala* 5 s. plura. *Nectaria* bilabiata, tubulata. *Caps.* polyspermæ, erectiusculæ.

Sp. Ch. H. caule multifloro folioso, foliis pedatis.

THE root is small, but beset with a prodigious number of slender dark coloured fibres;* the stem rises to the height of a foot and a half, or more, towards the bottom it is round, strong, firm, naked, and marked with alternate cicatrices, the vestiges of the former leaves; at the top it divides and subdivides into branches, producing many flowers, and is garnished with scaly leaves, or bracteæ; the leaves are numerous, and stand upon long footstalks, surrounding the middle of the stem; they are divided

* Gerard's description we find very just. "The root consisteth of many small black strings, involved or wrapped one within another very intricately." Johnson's Gerard, 977.

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like the Helleborus niger into simple leaves, which are commonly eight or nine, long, narrow, lanceolated, serrated, and of a dark green colour; the scaly leaves, placed at the ramifications of the flower stem, are smooth, trifid, alternate, and often purplish, but those near the flowers are oval and pointed; the flowers are numerous, terminal, pendent, of a roundish shape, and stand upon peduncles, forming a sort of umbel; the petals are five, oval, concave, persistent, of a pale green colour, and their margins are usually tinged with purple; the stamina are the length of the petals; the antheræ are white; the germina three, hairy, and shaped similarly to those of the Helleborus niger. This plant grows wild in many parts of England, and flowers about February.

The Helleborus niger, though constantly used in medicine since the time of Hippocrates, was the only species of Hellebore[b] known in the Materia Medica of our pharmacopœias, till the late introduction of this plant by the London College, probably upon the authority of Dr. Bisset, who recommends the leaves as possessing extraordinary anthelminthic powers. The smell of the recent plant is extremely fetid, and the taste is bitter, and remarkably acrid, insomuch, that when chewed, it excoriates the mouth and fauces; it commonly operates as a cathartic, sometimes as an emetic, and in large doses proves highly deleterious.[c] The leaves, the only part noticed by the College, have been long domestically employed in this country for their vermifuge effects, and are thus spoken of by Gerard:—" The leaves of bastard Hellebor, dried in an oven, after the bread is drawne out, and the pouder thereof taken in a figge or raisin, or strawed upon a piece of bread spread with honey, and eaten, killeth worms in children exceedingly."[d] Bisset says, " The great bastard black Hellebore, or Bear's-Foot,

[b] It must be observed, that the Helleborus Albus of the shops, is a Veratrum.

[c] Vide Threlkeld's Irish Herbal; and in the Oxford Magazine for March 1769, p. 99. fatal cases are related by John Cook of Oxford.

[d] Gerard l. c.

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is by far the most powerful vermifuge for long round worms of any I have yet experienced. The anthelminthic virtue of this plant is well known to the vulgar in the Dutchy of Cleveland, Yorkshire, who generally give it to their children when they suspect them to have worms. The decoction of about a dram of the green leaves, or about fifteen grains of the dried leaves in powder, is the usual dose administered to children betwixt four and seven years of age; a full or sufficient dose generally proves more or less emetic, and often loosens the belly a little. It is usually repeated on two, and sometimes three successive mornings. The second dose has commonly a greater effect than the first, and never fails to expel round worms by stool, if there be any lodged in the alimentary tube."

"The juice of the green leaves of the Bear's-Foot, made into a syrup with coarse sugar, is almost the only vermifuge I have used against round worms for three years past. Before pressing out the juice, I moisten the bruised leaves, which are a little succulent, with some vinegar, which is a corrector of this medicine, and prevents it from inducing great sickness, or much vomiting. Of this syrup I give one tea-spoonful at bed-time, and one or two in the morning, on two or three successive days, to children betwixt two and six years of age; increasing or diminishing the dose a little, according to the strength of the patient." *When this does not open the body, an equal quantity of tincture of rhubarb is directed to be added.

* An essay on the Medical Constitution of Great Britain, p. 235. and p. 339. Dr. B. speaks of this plant as useful also in some asthmatic and hypochondriacal disorders.

We have tried the anthelminthic effects of this plant upon a girl of twenty years of age, (a patient in the Middlesex Dispensary) with considerable advantage.

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CLEMATIS RECTA. UPRIGHT VIRGIN's BOWER.

SYNONYMA. Flammula Jovis. *Pharm. Edinb.* Flammula recta. *Bauh. Pin. p.* 300. Clematis sive Flammula surrecta alba. *J. Bauh. Hist. vol. ii. p.* 127. Flammula Jovis surrecta. *Gerard. Emac. p.* 888. *Park. Theat. p.* 382. *Raii Hist. p.* 621. *sp.* 4. Clematis caule erecto, foliis pinnatis ovato-lanceolatis. *Hal. Stirp. Helv. n.* 1144. *Flor. Aust. tab.* 291. *Stoerck Libell. de Flam. Jovis, tab.* 1.

Class Polyandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 696.

Ess. Gen. Ch. Cal. 0. *Petala* 4—6. *Sem.* caudata.

Sp. Ch. C. foliis pinnatis: foliolis ovato-lanceolatis integerrimis, caule erecto, floribus pentapetalis tetrapetalisque.

THE root is perennial, white, and fibrous: the stalk is erect, scored, round, smooth, branched towards the top, and rises about two feet in height: the leaves are opposite, and pinnated, the pinnæ are placed in pairs, and terminated by an odd one; they are all ovally lance-shaped, acute, entire, smooth, and veined. The flowers terminate the stem and branches in irregular umbels: there is no calyx: the petals are four or five, of an oval shape, and whitish colour: the filaments are numerous, erect, tapering, shorter than the petals, and terminated by the antheræ, which are scored on each side: the germina are many, roundish, hairy, and support bearded styles, of the length of the stamina, and crowned with obtuse stigmata: the seeds are roundish, compressed, and attached to the styles, which appear like long feathered tails; and hence the name, sem. *caudata.*

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This plant is a native of Hungary, Austria, and France, and flowers from June till August: it was first cultivated in England by Gerard, previous to the year 1597, and is now sufficiently known to the British gardeners. This, like some other species of the clematis, is extremely acrid, and hence the name Flammula. The recent leaves, upon being chewed, excite a burning heat of the tongue and fauces, and if retained long in the mouth, produce blisters and ulceration; but, by drying, this acrimony is considerably diminished: the flowers likewise possess a share of acrimony, though in a less degree. The Flammula Jovis, although mentioned by Dale and some others as an external remedy, was first recommended to the attention of practitioners by Baron Stoerck in 1769, as an useful medicine in many obstinate complaints.‡ He published several cases of its successful exhibition, particularly in inveterate syphilitic diseases producing head-aches, pains in the bones, nodes, ulcers, cutaneous affections, &c.*

Whether this plant really deserves the character which the Baron has thus attempted to establish, by stating its uniform success in twenty-two cases out of twenty-four, in which it was tried, rests solely upon his own authority; and it is with concern we observe, that the medical facts at Vienna are not very confidently received by the physicians in this country. It was usual for Dr. Stoerck to employ the leaves and flowers, as well as an extract prepared from the former, yet the preparation which he chiefly recommends is an infusion of two or three drams of the leaves in a pint of boiling water; of which he gave four ounces three times a day, while the powdered leaves were applied as an escharotic to the ulcers.

‡ Although these were principally venereal, yet in ulcers, cancers, and severe head-aches, not proceeding from this cause, the Flammula Jovis is said to have been likewise successful; and in his Lib. de Pulsat. p. 57. we are told of its remarkable efficacy in a case of melancholia tristissima. It generally acted as a diuretic or diaphoretic.

* Vide *Libell. de Flammula Jovis.*

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RANUNCULUS ACRIS — UPRIGHT MEADOW CROWFOOT.

SYNONYMA. Ranunculus pratensis. *Pharm. Murray. iii.* 75. Ranunculus foliis hirsutis semitrilobis, lobis lateralibus bipartitis, foliis caulinis semitrilobis. *Hall. Stirp. Helv. n.* 1169. Ranunculus pratensis erectus acris. *Bauh. Pin.* 178. *Ger. Emac.* 951. *Park. Theat.* 329. *Ray. Synop.* 248. R. acris. *Huds. Flor. Ang.* 211. *Withering Bot. Arr.* 576. *Scop. Flor. Carniol.* 398. *Ic. Curt. Flor. Lond.*

Polyandria Polygynia. *Lin. Gen. Plant.* 699.

Gen. Ch. *Cal.* 5-phyllus. *Petala* 5 intra ungues poro mellifero. *Sem.* nuda.

Sp. Ch. R. calycibus patulis, pedunculis teretibus, foliis tripartitomultifidis, summis linearibus.

ROOT perennial, consisting entirely of long white slender fibres. Stalk erect, branched near the top, round, hairy, about two feet in height. Leaves on long upright footstalks, trifid, subdividing into smaller laciniated lobes, marked beneath with small prominent reticulated veins: at the base of the peduncles, the leaves are simple, linear, and fringed with hairs. Flowers yellow, terminal, on long round hairy peduncles. Calyx of five leaves, which are ovate, spreading, hairy, yellowish. Corolla of five petals, yellow, shining, heart-shaped, commonly notched at the top. Filaments numerous, short, furnished with yellow inclining antheræ. Nectarium, a small scale at the base of each petal. Germina numerous, forming an orbicular head. Styles none. Stigmata reflexed. Seeds numerous, roundish, of a brown colour.

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It is a native of meadows and moist pastures, flowering in June and July.

The great acrimony of this, and many of the other species of Ranunculus, is such, that on being applied to the skin they excite itching, redness, and inflammation, and even produce blisters, tumefaction, and ulceration of the part. On being chewed they corrode the tongue; and, if taken into the stomach, bring on all the deleterious effects of an acrid poison.

The corrosive acrimony, which this family of plants possesses was not unknown to the ancients, as appears from the writings of Dioscorides; but its nature and extent had never been investigated by experiments before those instituted by C. Krapf[a] at Vienna, by which we learn that the most virulent of the Linnean species of Ranunculus are the bulbosus, sceleratus, acris, avensis, thora, and illyricus. The effects of these were tried either upon himself, or upon dogs, and show, that the acrimony of the different species is often confined to certain parts of the plant, manifesting itself either in the roots, stalks, leaves, flowers, or buds: the expressed juice, extract, decoction, and infusion of these plants were also subjected to experiments.

In addition to these species, mentioned by Krapf, we may also notice the R. Flammula, and especially the R. Alpestris, which, according to Haller, is the most acrid of this genus. However, as the species here delineated is a common English plant, and possesses this active principle diffused in a very considerable degree throughout the whole herb, it has been judged proper to select it for this work as a sufficient example and representative of the whole tribe.

Mr. Curtis observes that even pulling up this plant, and carrying

[a] Vide *Experimenta de nonnullorum Ranunculorum venenata qualitate, horum externo et interno usu.* 1766.

The R. sceleratus seems more corrosive than the R. acris; and we are told by Dr. Withering, that "beggars are said to use it to ulcerate their feet, which they expose in that state to excite compassion."

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it to some little distance, excited a considerable inflammation in the palm of the hand in which it was held.

It is necessary to remark, that the acrimonious quality of these plants is not of a fixed nature; for it may be completely dissipated by heat; and the plant on being thoroughly dried, becomes perfectly bland.

Krapf attempted to counteract this venomous acrimony of the Ranunculus by means of various other vegetables, none of which was found to answer the purpose, though he thought that the juice of sorrel, and that of unripe currants, had some effect in this way; yet these were much less availing than water; while vinegar, honey, sugar, wine, spirit, mineral acids, oil of tartar, &c. and other sapid substances manifestly rendered the acrimony more corrosive. It may be also noticed, that the virulency of this plant, as well as of most others, depends much upon the situation in which they grow, and is greatly diminished in the cultivated plant.

This and some other species of Ranunculus have, for medical purposes, been chiefly employed externally as a vesicatory, and are said to have the advantage of a common blistering plaster, in producing a quicker effect, and never causing strangury. But, on the other hand, it has been observed, that the Ranunculus is less certain in its operation, and that it sometimes occasions ulcers, which prove very troublesome and difficult to heal. Therefore their use seems to be applicable only to certain fixed pains,[b] and such complaints as require a long continued topical stimulus, or discharge from the part, in the way of an issue, which in various cases has been found to be a powerful remedy.

[b] Cases of its success in chronic rheumatism, and other complaints, are related by Chesnau *(obs. med.)* Baglv. *(oper. p.* 113.) Stoerck *(ann. med. ii. p.* 125.)

The manner of using the plant is to bruise it in a mortar, and to apply it to the skin as a poultice or plaster.

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PÆONIA OFFICINALIS. COMMON PEONY.

SYNONYMA. Pæonia. *Pharm. Dale.* 175. *Alston. i.* 485. *Lewis.* 470. *Edinb. New Disp.* 246. *Murray. iii.* 37. *Bergius.* 477. Pæonia folio nigricante splendido, quæ mas—et. Pæonia fœmina, &c. *Bauh. Pin.* 323. *Ger. Emac.* 980. *Park. Theat.* 1381. *Ray. Hist.* 693. Pæonia foliis lobatis ex ovato-lanceolatis. *Hall. Helv. Miller. Dict. Ic. Mill. Illust.*

Polyandria Digynia. *Lin. Gen. Plant.* 678.

Gen. Ch. *Cal.* 5-phyllus. *Petala* 5. *Styli* 0. *Caps.* polyspermæ.

Sp. Ch. P. foliolis oblongis.

ROOT perennial, large, knobby, externally brown, internally white, compact. Stalks two feet in height, thick, smooth, succulent, branched. Leaves pinnated, or cut into lobes, which are oblong, few, terminated by an odd one. Flowers large, terminal, solitary, red. Calyx composed of five unequal ovate concave leaves. Corolla naturally consisting of five large petals, which are roundish and concave. Filaments about thirty, short, slender, supporting oblong quadrangular antheræ. Germina two, ovate, erect, hairy. Styles none. Stigmata hooked. Capsules two, hairy, oblong, inclining outwardly, single-celled, single-valved, and containing numerous small seeds.

Peony is a native of Switzerland: it has been cultivated in Britain since the time of Turner, and is now a common plant in the English gardens, where it flowers in May and June.

This plant has long been considered as a powerful medicine; and, till the late revision of the Pharmacopœia by the London

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College, it had a place in the catalogue of the Materia Medica; in which the two common varieties of this plant are indiscriminately directed for use, and, on the authority of C. Bauhine, improperly distinguished into male and female Peony.

" The roots and seeds of Peony have, when fresh, a faint unpleasant smell, somewhat of the narcotic kind; and a mucilaginous subacrid taste, with a slight degree of bitterness and astringency. In drying they lose their smell, and part of their taste. Extracts made from them by water are almost insipid, as well as inodorous; but extracts made by rectified spirit are manifestly bitterish and considerably astringent.

" The flowers have rather more smell than any of the other parts of the plant, and a rough sweetish taste, which they impart, together with their colour, both to water and spirit."[a]

The roots, flowers, and seeds of Peony have been esteemed in the character of an anodyne and corroborant, but more especially the roots; which since the days of Galen[b] have been very commonly employed as a remedy for the epilepsy. For this purpose it was usual to cut the root into thin slices, which were to be attached to a string, and suspended about the neck as an amulet; if this failed of success, the patient was to have recourse to the internal use of this root, which Willis[c] directs to be given in the form of powder, and in the quantity of a dram two or three times a day, by which, as we are informed, both infants and adults were cured of this disease. Other authors recommend the expressed juice to be given in wine, and sweetened with sugar, as the most effectual way of administering this plant. Many writers,[d] however, especially in modern times, from repeated trials of the Peony in epileptic cases, have found it of no use whatever; though professor Home, who gave the radix pæoniæ to two

[a] *Lewis. l. c.*

[b] *De simp. lib. 6. p. 807. Rice.*

[c] *Pathol. Cerebri. cap. 3.* [d] Boerhaave, Haller, Tissot, and others.

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Epileptics at the Edinburgh Infirmary, declares that one received a temporary advantage from its use.*

Of the good effects of this plant in other disorders we find no instances recorded.

* See *Clinical Experiments, &c. p.* 209.

RUTA GRAVEOLENS. COMMON RUE.

SYNONYMA. Ruta. *Pharm. Lond. & Edinb.* Ruta hortensis. *Gerard. Emac.* p. 1255. Ruta hortensis major. *Park. Theat.* p. 132. Ruta sativa vel hortensis. *Bauh. Hist.* iii. p. 197. Ruta hortensis latifolia. *Bauh. Pin.* p. 336. *Rait. Hist.* p. 874. Ruta foliis duplicato-pinnatis, lobulis ovatis. *Hal. Stirp. Helv.* No. 1003. Ρυτη *seu* Πηγανον *Græc.*

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 523.

Ess. Gen. Ch. Cal. 5-partitus. *Petala* concava. *Receptac.* punctis melliferis decem cinctum. *Caps* lobata. *Quinta pars numeri in quibusdam excluditur.*

Sp. Ch. R. foliis decompositis, floribus lateralibus quadrifidis.

THE root sends forth several shrubby stalks, which towards the bottom are strong, woody, and covered with rough, grey, striated bark; the upper or young branches are smooth, and of a pale green colour: the leaves are compound, consisting of double sets of irregular pinnæ, which are minutely notched or crenulated, of an obversely oval shape, and of a glaucous or bluish green colour: the flowers are numerous, and produced in a branched corymbus on subdividing peduncles: the calyx commonly divides into four and sometimes into five pointed leaves; the corolla con-

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sists of four and frequently of five petals, these are hollow or boat-shaped, dentated or fringed at the edges, and of a yellow colour; the ten filaments are yellow, tapering, spreading, and generally lodged in the cavity of the petals; the antheræ are yellow and quadrangular; the style is short; the stigma is simple; and the germen is large, oval, green, rough, and marked by four longitudinal furrows; the seeds are angular, rough, and of a blackish colour. The shrub is a native of the South of Europe, and flowers in June and September.

The first account we have of the cultivation of Rue in Britain, is given by Turner, who published his Herbal in 1562.[a] It is now extremely common in our gardens, where it retains its verdure the whole year. Rue has a strong ungrateful smell, and a bitter, hot, penetrating taste; the leaves are so acrid, that by much handling they are said to irritate and inflame the skin; and the plant, in its natural or uncultivated state, is reported to possess these sensible qualities still more powerfully. Both water and rectified spirit extract its virtues, but the latter more perfectly than the former.*

Rue was much used by the ancients, who ascribed to it many virtues. Hippocrates commends it as a resolvent and diuretic, and attributes to it the power of resisting the action of contagion, and other kinds of poisons, and with this intention it was used by Mithridates:[b] this imaginary quality‡ of the Ruta, is now however

[a] Vide Hort. Kew.

* From the experiments of Beaumé it appears, that the recent plant contains but a very small portion of essential oil: thus from 21 lb. of the leaves he scarcely obtained a dram, while 10 lb. of the seeds yielded two ounces. Berg. M. M. p. 350.

[b] In sanctuariis Mithridatis maximi regis devicti, Cn. Pompeius invenit, in peculiari commentario ipsius manu, compositionem antidoti, e duabus nucibus siccis, item ficis totidem & rutæ foliis viginti simul tritis, addito salis grano: & qui hoc jejunus sumat, nullum venenum nociturum illo die. Plin. L. 23. c. 8. p. 604.

‡ "One virtue particularly ascribed to Rue, that of resisting contagion, or of expelling it when taken in, I hold to be absolutely without foundation."—Cullen M. M. v. ii. p. 365.

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very little credited, though so highly extolled by Boerhaave.[c] According to Bergius it is "alexiteria, pellens, emmenagoga, sudorifera, rubifaciens." It is doubtless a powerful stimulant, and may be considered, like other medicines of the fetid kind, to have attenuating, deobstruent, and antispasmodic powers,[d] and to be more peculiarly adapted to phlegmatic habits, or weak and hysterical constitutions, suffering from retarded or obstructed secretions. In the London Pharm. Ruta is directed in the form of an extract, and it is also an ingredient in the Pulvis e myrrha compositus. By some it is employed in the way of tea.

[c] The opinion formerly entertained of this plant, may be collected from the Schola Salernitana, in which its virtues are thus celebrated. c. 37. p. 427.

Nobilis est ruta, quia lumina reddit acuta;
Auxilio rutæ, vir lippe videbis acute;
Cruda comesta recens, oculos caligine purgat.
Ruta viris minuit Venerem, mulieribus addit.
Ruta facit castum, dat lumen, & ingerit astum.
Cocta & facit ruta de publicibus loca tuta.

[d] "I have no doubt in asserting its antispasmodic powers." Cullen M. M. v. ii. p. 363.

The following are the remaining medicinal plants of this order which we have not thought sufficiently important to require any particular consideration:

Systematic Names.	Officinal.	English.
Aquilegia vulgaris	Aquilegia	Columbine
Aconitum Anthora	Anthora	Wholesome Woolf's-bane
Delphinium Consolida	Consolida regalis	Branched Larkspur
Nigella sativa	Nigella	Fennel-flower
Ranunculus sceleratus	R. palustris	Marsh Crowfoot
——— Flammula	Flammula	Spearwort Crowfoot
——— bulbosus	R. bulbosus	Bulbou Crowfoot
——— Ficaria	Chelidonium minus	Pilewort Crowfoot
Anemone nemorosa	Ranunculus albus	Wood Anemone
——— Hepatica	Hepatica nobilis	Blue Hepatica
Thalictrum flavum	Thalictrum	Meadow Rue

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ORD. XXVII. SENTICOSÆ.

(From *Sentis*, a Briar or Bramble.)

Spinous or rough Plants.

POTENTILLA REPTANS. COMMON CINQUEFOIL.

SYNONYMA. Pentaphyllum. *Pharm. Lond.* Quinquefolium majus repens. *Bauh. Pin. p.* 325. Quinquefolium vulgare. *Gerard. Emac. p.* 987. Pentaphyllum vulgatissimum. *Park. Theat. p.* 398. *Raii Hist. p.* 611. *Synop. p.* 255. *J. Bauh. Hist. p.* 397. Fragara foliis quinatis, serratis, petiolis unifloris, caule reptante. *Hal. Stirp. Helv. n.* 1118. *Withering. Bot. Arrang. p.* 534. *Curtis Flor. Lond.*

Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 634.

Ess. Gen. Ch. Cal. 10-fidus. *Petala* 5. *Sem.* subrotunda, nuda, receptaculo parvo ex succo affixa.

Sp. Ch. P. foliis quinatis, caule repente, pedunculis unifloris.

THE root is perennial, long, tapering, or fusiform, furnished with but few fibres, internally reddish, and externally of a yellowish brown colour: the stalks are numerous, slender, purplish, smooth, and creeping: the leaves are quinate, or five,

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placed together, and sometimes seven, of unequal size, elliptical, obtuse, serrated, veined, somewhat hairy, and sitting close to the common footstalk, which is of considerable length, and rises from the stoloniferous joints of the stem: the stipulæ stand in pairs, and are composed of three ovalish seeds: the flowers are yellow, and placed singly upon long slender peduncles: the corolla consists of five petals, which are inversely heart-shaped, of a bright yellow colour, and inserted into the calyx by short claws: the calyx is a perianthium of one leaf, divided into ten pointed segments, which are alternately smaller, and frequently turned back: the filaments are about twenty, short, tapering, and inserted at the glandular base of the calyx, and crowned by oblong, flattish, double-celled yellow antheræ: the germina are numerous, and form a conical head, supporting short styles, terminated by blunt stigmata: the seeds are numerous, small, and of a brown colour. It flowers from July till September, and is common on meadow banks, and on the sides of roads.

The roots of this plant have a bitterish styptic taste, and give out their astringent matter both to water and spirit. They were used by Hippocrates and Dioscorides, and by the former particularly recommended for the cure of intermittents.[a] And Ray tells us, that the peasantry still employ them with this intention.[b] The medicinal quality of Cinquefoil is confined to the external or cortical part of the root, and depends merely upon its astringent effects; it has therefore been chiefly prescribed internally in diarrhœas and other fluxes, and externally in gargles and astringent lotions: but as its efficacy is much inferior to many other plants of this class, the Cinquefoil is now rarely used. In large doses, however, it may be found no bad substitute for some of the other astringents.

[a] *De Morb. l. 2. p. 473.* Fëos.

[b] *Hist. Plant. p. c.* See also Senac *de recond. febr. interm. nat. p. 185.*

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RUBUS IDÆUS. RASPBERRY BUSH.

SYNONYMA. Rubus idæus. *Pharm. Lond.* Rubus idæus spinosus fructu rubro. *J. Bauh. Hist. vol. ii. p.* 59. *Raii Hist. p.* 1640. *Synop. p.* 467. Rubus caule spinoso, subrecto, foliis quinatis et ternatis, subtus tomentosis, fructibus hirsutis. *Hall. Stirp. Helv. no.* 1108. Rubus idæus. *Gerard, Emac. p.* 1272. *Park. Theat. p.* 557. *Huds. Ang. p.* 219. *Lightf. Scot. p.* 263. *Withering. Bot. Arrang. p.* 525. *Flor. Dan.* 788. α Red Raspberry. β White Raspberry. γ Smooth Raspberry. *Aiton. Hort. Kew.*

Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 632.

Ess. Gen. Ch. Cal. 5-fidus. *Petala.* 5. *Bacca* composita: acinis monospermia.

Sp. Ch. R. foliis quinato-pinnatis ternatisque, caule aculeato, petiolis canaliculatis.

THE stems of the Raspberry are biennial, rough, beset with spines, and rise two or three feet in height: the leaves are rough, veined, serrated, downy on the underside, and composed of five or three pair of oval pinnæ, terminated by an odd one: the flowers terminate the branches in pannicles, and appear in succession: the calyx is divided into five oblong expanding segments: the corolla consists of five petals, which are upright, blunt, narrow, white, and inserted into the calyx: the filaments are numerous, shorter than the petals, fixed to the calyx, and terminated with roundish compressed antheræ: the germens are numerous, and each supports a short capillary style, furnished with a simple permanent stigma: the fruit is a red berry, composed of several roundish granulations, collected into a knob,

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which is convex above, concave beneath, and placed upon a conical receptacle: each granulation has one cell, containing an oblong seed. It is a native of Britain, usually growing about woods, hedges, rocky mountains, and in moist situations, producing its flowers in May and June.

The Raspberry is very commonly cultivated in our gardens, where we frequently observe the varieties noticed above. The figure, which accompanies this description, is taken from a garden specimen, and consequently appears more luxuriant than when the Raspberry is found in its natural or uncultivated state. This fruit has a pleasant sweet taste, accompanied with a peculiarly grateful flavour, on account of which it is chiefly valued. Its virtues consist in allaying heat and thirst, and in promoting the natural excretions; but it seems less adapted to answer these purposes than many of the other summer fruits, some of which we have already noticed.

A grateful syrup, prepared from the juice, is directed for officinal use by the London Pharmacopœia.

ROSA CANINA. DOG ROSE, Or, HEP TREE.

SYNONYMA. Cynosbatus. *Pharm. Lond.* Rosa sylvestris vulgaris, flore odorato incarnato. *Bauh. Pin. p.* 483. Rosa sylvestris inodorata, seu canina. *Park. Theat. p.* 1017. *Raii Hist. p.* 1470. *Synop. p.* 454. *Gerard. Emac. p.* 1270. Rosa spinis aduncis, foliis septenis, calycibus tomentosis, segmentis pinnatis & semipinnatis tubis brevissimis. *Hal. Stirp. Helv.* 1101. Rosa canina. *Huds. Ang. p.* 219. *Lightf. Scot. p.* 262. *Ed.* 1789. *Withering. Bot. Arr. p.* 523. *Curt. Flor. Lond. Flor. Dan.* 555.

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Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 631.

Ess. Gen. Ch. Petala. 5. *Cal.* urceolatus, 5-fidus, carnosus, collo coarctatus. *Sem.* plurima, hispida, calycis interiori affixa.

Sp. Ch. R. germinibus ovatis pedunculisque glabris, caule petiolisque aculeatis.

THIS small tree usually rises ten or twelve feet in height, dividing towards the top into many branches, covered with smooth bark, and beset with alternate hooked prickles: the leaves are pinnated, consisting of two or three pair of pinnæ or leafits, with an odd one at the end; they are all of an oblong or oval shape, serrated, veined, pointed, growing close to the common footstalk, which is prickly, and at its base furnished with a sheathy expansion fringed at the edges: the bracteæ are oval, fringed, and placed in pairs at the peduncles, which are smooth: the flowers are large, terminal, two or three together, and of a reddish or flesh-colour: the calyx is pitcher-shaped at its base, fleshy, separated above into five long expanding divisions, subdividing into smaller segments: the corolla consists of five inversely heart-shaped petals: the filaments are numerous, slender, short, inserted in the calyx, and furnished with triangular antheræ: the germens are numerous, in the bottom of the calyx, supplied with an equal number of styles, which are villous, short, compressed in the neck of the calyx, inserted in the side of the germen, and terminated with obtuse stigmata: the fruit is a fleshy smooth oval berry, of a deep flesh colour, formed of the tubular part of the calyx, and containing many long rough seeds. It is a native of Britain, commonly growing in woods and hedges, and flowering in June.

The flowers of this tree frequently make a conspicuous and beautiful appearance in the hedges, and though by some botanists they are said to be inodorous, yet their fragrance is often very perceptible. The fruit, called heps or hips, has a sourish taste,

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and obtains a place in the London Pharmacopœia, in the form of a conserve; for this purpose the seeds and chaffy fibres are to be carefully removed; for if these prickly fibres are not entirely scraped off from the internal surface of the heps, the conserve is liable to produce considerable irritation on the primæ viæ. This officinal preparation of the fruit is not supposed to possess any medical virtue,[a] but it is agreeable to the taste, and well suited to give form to the more active articles of the Materia Medica.

[a] Formerly however it was esteemed useful in many disorders, as dropsies, calculous complaints, dysenteries, hæmorrhages, &c. See Herman, *Diss. de Rosa.* §. 11.

A moss-like prickly excrescence, called *Bedeguar*, *Rose sponge*, and by the French *Galle chevelüe*, is frequently found upon the branches of this tree, and is the habitation of the insect *Cynips Rosæ*. This excrescence was formerly in great repute as a remedy for various diseases. See Gendornius, *Cynosbatologia*, *p.* 136. *sqq.*

ROSA CENTIFOLIA. HUNDRED-LEAVED ROSE.

SYNONYMA. Rosa damascena. *Pharm. Lond.* Rosa pallida. *Pharm. Edinb.* Rosa multiplex media. *Bauh. Pin. p.* 482. Rosa Hollandica sive Batava. *Gerard, Emac. p.* 1262. Rosa centifolia batavica. 11 *Clus. Hist. i. p.* 114.

The varieties of this species, according to Mr. Aiton, are

Dutch Hundred Leav'd Rose.
Blush Hundred Leav'd Rose.
Singleton's Hundred Leav'd Rose.
Burgundy Rose.
Single Velvet Rose.
Double Velvet Rose.
Sultan Rose.
Stepney Rose.
Garnet Rose.
Bishop Rose.
Lisbon Rose.

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Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 691.

Ess. Gen. Ch. *Petala* 5. *Cal.* urceolatus, 5-fidus, carnosus, collo coarctatus. *Sem.* plurima, hispida, calycis interiori affixa.

Sp. Ch. R. germinibus ovatis pedunculisque hispidis, caule hispido aculeato, petiolis inermibus.

THIS species of Rose-bush commonly rises about five or six feet in height, and is numerously beset with short spines: the leaves are pinnated, consisting of two or three pair of pinnæ, with an odd one at the end; each pinna, or leafit, is oval, or rather egg-shaped, broad, serrated, pointed, veined, hairy, and closely attached to the common footstalk, which is rough, but without spines: the peduncles are covered with short bristly hairs: the flowers are large, commonly of a pale red colour, and the parts of inflorescence, which in their simple and natural state are similar to those described of R. canina, by the effects of cultivation, are forced into numerous petals, and are therefore to be considered as monstrosities.

Most of the Roses, though much cultivated in our gardens,* are far from being distinctly characterized. Those denominated varieties are extremely numerous, and often permanently uniform; and the specific differences, as hitherto pointed out, are in many respects so inadequate to the purpose of satisfactory discrimination, that it becomes a difficult matter to say, which are species, and which are varieties only. The London College, following Gerard and Parkinson, has still retained the name Rosa damascena; but the damask rose is another species, widely different from the centifolia, as appears from the descriptions given of it by Du Roi and Miller.

The petals are directed for medicinal use: they are of a pale red colour, and of a very fragrant odour; which to most people

* This species was cultivated by Gerard; but botanists have not been able to determine its native country.

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is extremely agreeable, and therefore this and most of the other roses are much used as nosegays: we may remark however, that in some instances they have, under certain circumstances, produced alarming symptoms.[a] The petals "impart their odorous matter to watery liquors, both by infusion and distillation: six pounds of fresh roses impregnate, by distillation, a gallon or more of water strongly with their fine flavour. On distilling large quantities, there separates from the watery fluid a small portion of a fragrant butyraceous oil, which liquifies by heat and appears yellow, but concretes in the cold into a white mass: an hundred pounds of the flowers, according to the experiments of Tachenius and Hoffman, afforded scarcely half an ounce of oil."†

The smell of this oil exactly resembles that of the roses, and is therefore much used as a perfume.[b] It possesses very little pun-

[a] As sneezing, inflammation of the eyes, faintings, hysterical affections, abortion, &c. (Echtius, in *Adami vit. med. p.* 72.) Many other instances are related by Scheuckius, *Obs. Med. rar. p.* 917. See also Nat. Curios. in various parts, cited by Murray, *App. Med. vol. iii. p.* 160. Persons confined in a close room, with a large quantity of roses, have been in danger of immediate extinction of life. *l. c.* From the experiments of Priestley and Ingenhousz this effect seems owing to the mephitic air, which these and most other odoriferous flowers exhale. See Exper. on Vegetables by Dr. Ingenhousz.

† *Lewis, M. M. p.* 541.

[b] The process for making Attar, or Essential Oil of Roses, so much esteemed as a perfume, is related in the *Asiatic Researches* by Colonel Polier, and is as follows:—Forty pounds of roses, with their calyces, are put into a still with 60lb. of water. The mass being well mixed, a gentle fire is put under the still; and when fumes begin to rise, the cap and pipe are properly fixed and luted. When the impregnated water begins to come over, the fire is lessened by gentle degrees, and the distillation continued until thirty pounds of water are come over, which is generally done in about four or five hours. This water is to be poured upon 40 lb. of fresh roses; and thence are to be drawn from 15 to 20lb. of distilled water, by the same process as before. It is then poured into pans of earthen ware, or of tinned metal, and left exposed to the fresh air for the night. The attar or essence will be found in the morning, congealed and swimming on the top of the water.

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gency, and has been highly recommended for its cordial and analeptic qualities.[c] These flowers also contain a bitterish substance, which is extracted by water along with the odorous principle, and remains entire in the decoction after the latter has been separated by distillation or evaporation.[d] This fixed sapid matter of the petals manifests a purgative quality, and it is on this account that the flowers are received in the Materia Medica.

The pharmacopœias direct a syrup to be prepared of this rose, which in doses of a spoonful is found to be pleasant and useful as a laxative for children, or to obviate costiveness in adults. The simple distilled rose-water seems to have nothing but its fragrance to recommend it.

[c] *F. Hoffman, Obs. phys. chem. p.* 21. [d] *Lewis, l. c.*

ROSA GALLICA. RED OFFICINAL ROSE.

SYNONYMA. Rosa rubra. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1261. *Raii. Hist. p.* 1470. Rosa rubra multiplex. *Bauh. Pin. p.* 481. *Du Hamel Arbr. 2. p.* 222. *t.* 53. Rosa rubra anglica. *Park. Parad. p.* 413.

Rosa caule subinermi, foliis quinis subtus villosis, calycis foliolis indivisis. *Mill. Dict.*

β Rosa Prænestina variegata plena. *Mill. ic.* 148. *t.* 221. *f.* 2.

Mundi Rose.

γ *Marbled Rose.*

δ *Virgin Rose.*

Class Icosandria. *Ord.* Polygynia. *Lin. Gen. Plant.* 631.

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Ess. Gen. Ch. Petala 5. *Cal.* urceolatus, 5-fidus, carnosus, collo coarctatus. *Sem.* plurima, hispida, calycis interiori lateri affixa.

Sp. Ch. R. germinibus ovatis pedunculisque hispidis, caule petiolisque hispido-aculeatis.

THIS species does not rise so high as the Centifolia, but much resembles it in its foliage. Linnæus rests their specific difference on the greater roughness and prickliness of the leaf-stalks of the gallica, but from the observations we have made, this circumstance is not sufficiently remarkable to found the distinction. The petals of this species, though large and spreading, are never half so numerous as in the centifolia, and are of a deep crimsom colour. It is a native of the south of Europe, and is now common in our gardens, flowering in June and July.

" The flowers give out their virtue both to watery and rectified spirit, and tinge the former of a fine red colour, but the latter of a very pale one: the extract obtained by inspissating the watery infusion is moderately austere, bitterish, and subsaline; the spirituous extract is considerably stronger both in astringency and bitterness."[a]

The flowers of this species of rose possess neither the fragrance nor the laxative power of those of the centifolia, but are chiefly valued for their astringent qualities,* which are most considerable before the petals expand, and therefore in this state they are chosen for medicinal use,[b] and ordered by the pharmacopœias in different preparations, as those of a conserve, a honey, an infusion,

[a] *Lewis, M. M. p.* 543.

* Poterius, however, relates, that he found a dram of powdered red roses occasion three or four stools, and this not in a few instances, but constantly in several. See *Lewis, l. c.*

[b] Both the astringency and the colour of the petals are best preserved by hasty exsiccation.

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and a syrup. These preparations, especially the first and second, have been highly esteemed in phthisical cases, particularly by the Arabian physicians. Avicenna[c] and Mesue[d] mention some remarkable instances of this kind which were cured by the roses. Riverius also cites several others;[e] and the case of Krüger, related in the German ephemerides,[f] has been thought a still more evident proof of the efficacy of the conserve of roses in phthisis pulmonalis; but as the use of the conserve was constantly joined with that of milk and farinacea, together with proper exercise in the open air, it has been doubted if these recoveries could be wholly imputed to the roses,[g] though their mild astringent and corroborant virtues certainly contributed much.[h]

The infusion of roses is a grateful cooling subastringent, and useful in hæoptysis, and some other hæmorrhagic complaints as a gargle; its efficacy however depends chiefly on the acid. The syrup derives its use merely from its colour.

[c] *Lib.* 3. *Fen.* 10. *Tract.* 5. *cap.* 5. *p.* 275. [d] *Cap. de phthisi.*
[e] *Prax. Med. Lib.* 7. *cap.* 7. *p.* 348. [f] *Dec.* 2. *An.* 4. *obs.* 9.
[g] See *Cullen, M. M. vol. ii. p.* 35.
[h] In some of the cases alluded to, twenty or thirty pounds of the conserve were taken in the space of a month.

AGRIMONIA EUPATORIA. COMMON AGRIMONY.

SYNONYMA. Agrimonia. *Pharm. Geoff. iii.* 46. *Dale.* 112. *Alston. i.* 76. *Lewis.* 28. *Edinb. New Dispens.* 119. *Bergius.* 346. *Murray. iii.* 147. Eupatorium veterum seu Agrimonia. *Bauh. Pin.* 321. Agrimonia. *Gerard. Emac.* 712. Agrimonia vulgaris. *Park.* 594. *Ray. Syn.* 202. Agrimonia foliis pinnatis, pinnulis alterne minimis. *Hall. Hist. Stirp. Helv.* 991. A. Eupatoria. *Hudson. Flor. Ang.* 206. *Withering. Bot. Arr.* 490. *Ic. Flor. Dan.* 588. *Curt. Flor. Lond. Mill. Illustr.*

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Dodecandria Digynia. *Lin. Gen. Plant.* 607.

Gen. Ch. *Cal.* 5-dentatus, altero obvallatus. *Petala* 5. *Sem.* 2, in fundo calycis.

Sp. Ch. A foliis caulinis pinnatis, impari petiolata, fructibus hispidis.

ROOT perennial, reddish, scaly. Stalk erect, round, hairy, reddish, varying from one to three feet in height. Leaves alternate, interruptedly pinnated, composed of five or six pair of pinnæ, with an odd one at the end: the large pinnæ are commonly sessile, opposite, ovate, deeply serrated, rough. Stipulæ two, opposite, serrated, spreading. Bracteæ trifid. Flowers yellow, on short peduncles, in long simple spikes. Calyx permanent, divided into five segments, which are ovate, pointed, externally surrounded with rigid hairs, internally closed with a yellow substance of a glandular appearance: involucrum at the base of the germen, composed of two dentated leaves. Corolla composed of five petals, which are ovate, yellow, spreading, inserted into the glandular substance of the calyx. Filaments eleven or twelve, yellowish. Antheræ two-lobed. Germen beneath the calyx, supporting two styles, with blunt stigmata. Capsule formed of the calyx, containing two roundish smooth seeds.

It is common in fields about hedges and shady places, flowering in June and July.

"The leaves of Agrimony have a slightly bitterish roughish taste, accompanied with an agreeable though very weak aromatic flavour: the flowers are in smell stronger and more agreeable than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and to rectified spirit. In distillation with water the leaves afford a small portion of a yellowish essential oil, which smells strongly and agreeably of the herb."*

* Lewis, l. c.

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This plant has been principally regarded in the character of a mild astringent and corroborant, and many authors recommend it as a deobstruent, especially in hepatic and other visceral obstructions. Chomell relates two instances of its successful use in cases where the liver was much enlarged and indurated.[a] It has been used with advantage in hæmorrhagic affections, and to give tone to a lax and weak state of the solids. In cutaneous disorders, particularly in scabies, we have been lately told that it manifests great efficacy;[b] for this purpose it was given infused with liquorice in the form of tea: but according to Alston it should be always exhibited in the state of powder.

[a] Usuelles. t. 2. p. 165.

[b] Becker Diss. de Eupatorio Græcorum seu Agrimonia viribus. Erf. 1783.

GEUM URBANUM. COMMON AVENS.

SYNONYMA. Caryophyllata. *Pharm. Dale.* 160. *Geoff. iii.* 263. *Alston. i.* 404. *Lewis.* 205. *Edinb. New Dispens.* 164. *Bergus.* 445. *Murray. iii.* 122. Caryophyllata vulgaris. *Bauh. Pin.* 321. *Park. Theat.* 136. *Ray. Hist.* 606. *Synop.* 253. *Gerard. Emac. p.* 995. G. urbanum. *Hudson. Flor. Ang.* 198. *Withering. Bot. Arrang. p.* 537. *Ic. Curt. Flor. Dan. t.* 672.

Icosandria Polygynia. *Lin. Gen. Plant.* 636.

Gen. Ch. Cal. 10-fidus. *Petala* 5. *Sem.* arista geniculata.

Sp. Ch. G. flor. erectis, fruct. globosis villosis, aristis uncinatis nudis, foliis lyratis.

ROOT perennial, fibrous, brown. Stalks branched, somewhat angular, hairy, about two feet in height. Leaves varying, com-

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monly pinnated, hairy, toothed; pinnæ two pair, of which the lower are almost circular; the upper pair elliptical; terminal leaf the largest, and frequently cut into three lobes. Flowers terminal, on long hairy peduncles. Calyx divided into three segments, which are alternately large and small. Corolla composed of five roundish yellow petals, widely spreading from each other. Filaments numerous, yellowish, tapering, inserted into the calyx. Antheræ roundish. Germina many, hairy, collected into an orbicular shape. Styles jointed in the middle, enlarged at the top, and furnished with simple stigmata. Seeds numerous, compressed, rough, crooked near the extremity, terminated by a long arista.

It is a common British plant, in woods and hedges, flowering from June till August.

The root, which is the part of this plant medicinally employed, has an aromatic and somewhat astringent taste, and a pleasant smell of the clove kind, especially when it is produced in dry and warm soils. "It gives out its astringent matter equally to watery and spirituous menstrua; its aromatic part most perfectly to the latter. In distillation with water it yields a small quantity of a whitish concrete oily matter, of a very grateful fragrance."[a]

According to Buchhave it yields a greater proportion of watery than of resinous extract.

This plant, though little used in Britain, is held in great estimation on the Continent, where its virtues have been long considered as extremely various: but the character in which it has been lately received, and most particularly celebrated since the year 1780, is that of a febrifuge; thus Buchhave,[b] Aaskow, Callisen, Bang, Schönheyder, and Tode, also Weber and Koch,[c] Anjou,[d] &c. all bear testimony of its efficacy, adducing numerous instances of

[a] Lewis, l. c.

[b] *Obs. circa radicem Gei urb.*

[c] *Diss. de nonnullorum febrifugorum virtute, et speciatim Gei urbani radicis efficacia.*

[d] *Diss. de radice Caryophyllatæ.*

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its successful exhibition in obstinate intermittents, many of which yielded to the root of this plant, after the Peruvian bark had failed.

It is said that a tincture of this root, made in the proportion of four ounces of the root digested with a quart of brandy in a sand heat, and given to the quantity of half an ounce or more, two, three, or four times a day, seldom fails to cure agues. Others gave it with equal success in decoction, powder, or electuary, in the proportion in which the Cinchona bark is commonly employed.

This root has also been found an useful medicine in several chronic disorders, as a general tonic and astringent; and experiments made by Buchhave show its antiseptic power to exceed that of Peruvian bark.

Medicinal Plants of this order, not introduced into this work, are

Systematic Names.	Officinal.	English.
Spiræa Filipendula	Filipendula	Dropwort
Spiræa Ulmaria	Ulmaria	Meadow-sweet
Geum rivale	Geum rivale	Water Avens
Potentilla Anserina	Anserina	Silvery Cinquefoil
Fragaria vesca	Fragaria	Strawberry
Alchemilla vulgaris	Alchemilla	Ladies Mantle

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TORMENTILLA ERECTA. COMMON TORMENTIL, Or UPRIGHT SEPTFOIL.

SYNONYMA. Tormentilla, *Pharm. Lond. & Edinb.* Tormentilla Officinalis, *Curt. Flor. Lond.* Fragaria tetrapetala, foliis caulinis sessilibus quinatis. *Hal. Stirp. Helv.* n. 1117. Tormentilla sylvestris, *Bauh. Pin.* 326. Pentaphyllum aut potius Heptaphyllum, flore aureo tetrapetalo, Tormentilla dictum. *Hist. Oxon,* II. 190.

Class Icosandria. *Ord.* Polygynia. L. *Gen. Plant.* 635.

Ess. Gen. Char. Cal. 8-fidus. *Petala* 4. *Sem.* subrotunda, nuda, receptaculo parvo exsucco affixa.

Spec. Char. T. caule erectiusculo, foliis sessilibus.

THE root is perennial, thick, roundish, irregularly conical, knobbed, and covered with bark of a dark brown colour; the internal substance is dense, and has a reddish tinge; it sends forth many stems, which grow about a span high; they are round, slender, firm, somewhat hairy, more or less erect, and branched towards the top. The leaves upon the stalk are generally divided into seven, but those upon the branches are commonly five; of these, three are larger than the others; they are all of an eliptical shape, deeply serrated, villous, and the upper surface is of a deeper green colour than the under. The flowers stand singly upon long peduncles, which spring from the alæ of the leaves, each flower consisting of four small, roundish, emarginated, yellow petals; the calyx is cut into eight unequal segments; the pistilla are commonly eight, and contain as many seeds. This plant is common in dry pastures, and usually flowers in June. It is distinguished from the Tormentilla reptans, by its sessile leaves, its smaller petals, and its more erect stem.

The root is the only part of the plant which is used medicinally; it has a strong styptic taste, but imparts no peculiar sapid flavour. As a proof of its powerful astringency, it has been substituted for

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oak bark in the tanning of skins for leather.[a] This root has been long held in great estimation by physicians, as a very useful astringent; and as the resin[b] it contains is very inconsiderable, it seems more particularly adapted to those cases where the heating and stimulating medicines of this class are less proper, as phthisical diarrhœas, diarrhœa cruenta, &c. Dr. Cullen[c] thinks "it has been justly commended for every virtue that is competent to astringents," and says, "I myself have had several instances of its virtues in this respect; and particularly I have found it, both by itself and as joined with gentian, cure intermittent fevers; but it must be given in substance, and in large quantities." Rutty recommends it in these words: "Ulcera vetera & putrida sanat vino vel aqua decocta collutione & inspersu. In vino cocta optime deterget & roberat, in ulceribus scorbuticis oris, gutturis, & faucium ac in gingivis dissolutis, sanguinem stillantibus. Decocta ad appetitum deperditum maxime valet, tonum ventriculi restituens, & sordes ejus abstergens. Non est vegetabile quod in fluxionibus alvi efficacius sit. In dysenterea epidemica quidam in ore tenent ad præcavendum contagium. In fluxu sanguinis, fluore albo, & mictu involuntario valet."[d]

This root may be given in powder from half a dram to one dram or more for a dose, but it is more generally given in decoction, and the following form is recommended by Lewis: An ounce and an half of the powdered root is directed to be boiled in three pints of water to a quart, adding, towards the end of the boiling, a dram of cinnamon: of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

Tormentil is ordered in the pulvis e creta compositus of the London Pharmacopœia.

[a] Bartholini Act. Med. Hafn. v. 1. p. 88. and it has been observed, that the leather has been perfected in less time than when oak bark was used. Mus. Rust. vol. 2. n. 12. p. 51.

[b] It gives out its astringency both to water and rectified spirit, most perfectly to the latter. The extracts obtained by inspissation, are intensly styptic, the spirituous most so. Lewis's Mat. Med. 654.

[c] Cullen's Mat. Mat. vol. 2. p. 36. [d] Rutty's Mat. Med. 521.

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ORD. XXVIII. POMACEÆ.

(From *Pomum*, an Apple)
Bearing Fruit of the Apple, Pear, Cherry, and Berry kind.

PYRUS CYDONIA. COMMON QUINCE TREE.

SYNONYMA. Cydonium malum. *Pharm. Lond. & Edinb.* Malus Cotonea. *Gerard. Emac. p.* 1452. *Raii Hist. p.* 1452. *J. Bauh. Hist. vol. i. p.* 35. Malus Cotonea vulgaris. *Park. Theat. p.* 1504. Mala cotonea majora. *Bauh. Pin. p.* 434. *Flor. Aust. v. iv. t.* 342. Duplex varietas in hortis colitur, scil. 1. Cydonia fructu oblongo læviori. *Tourn. Instit. p.* 632. Mala Cotonea majora. *C. Bauh. l. c.* depicta ab ill Du Hamel, in *Traité des Arb. fruit. ad p.* 206. 2 Cydonia fructu breviore et rotundiore. *Tourn. l. c.* Mala cotonea minora. *C. Bauh. l. c.* depicta in Du Hamel *Traité des Arb. et Arbustes Tab.* 83. Prostat et alia 3 varietas: Cydonia latifolia lusitanica. *Tourn.* cujus fructus oblongus succosior et minus acerbus, sed rarioris proventus. Vide *Murray App. Med. vol. iii. p.* 196.

Class Icosandria. *Ord.* Pentagynia. *Lin. Gen. Plant.* 626.

Ess. Gen. Ch. Cal. 5-fidus. *Petala* 5. *Pomum* inferum 5-loculare, polyspermum.

Sp. Ch. F. fol. integerrimis, flor. solitariis.

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THIS tree seldom rises very high, being usually crooked and distorted: it sends off several branches, and is covered with a brown bark: the leaves are simple, roundish or oval, entire, on the upper side of a dusky green colour, on the under whitish, and stand upon short footstalks: the flowers are large, solitary, of a pale red or white colour, and placed close to the axillæ of the leaves: the calyx is composed of one leaf, and divided into five spreading oval notched segments: the corolla consists of five petals; these are large, convex, roundish, and notched at their extremities: the filaments are about twenty, tapering, shorter than the corolla, inserted into the calyx, and furnished with simple antheræ: the germen is orbicular, the styles are five, slender, nearly of the length of the filaments, and supplied with simple stigmata: the fruit is of the apple kind, and divided at the centre into five membranous cells, containing the seeds, which are oblong, angular, pointed at one end, obtuse at the other, on one side compressed, on the other flat, and covered with a brownish pellicle. It is a native of Austria,* and flowers in May and June.

It appears from Pliny,† that the malus Cydonia, or Μηλεα κυδωνια of the Greeks, was originally brought from Cydon in Crete, hence the name Cydonia. At present, the Quince tree is known to grow wild on the banks of the Danube, though in a much less luxuriant state than we observe it in British gardens, where it was cultivated in the time of Gerard. The form of the fruit approaches to that of the pear or apple, according to the different varieties of this species of tree from which it is produced, and which we have already noticed under the synonyms: it has a pleasant odour, and a very austere taste:‖ its expressed juice, repeatedly taken in small quantities, is said to be cooling, restringent, and stomachic,

* Vide *Aiton's Hort. Kew.*

† *Lib. xv. cap.* 11.

Heister *Diss. de Cydoniis, p.* 59.

‖ But upon being boiled and preserved in syrup, this fruit is well known to give a pleasant flavour to apple-pies.

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useful in nausea, vomitings, nidorous eructations, and some kind of alvine fluxes.[b] Formerly this juice was ordered in the Lond. Pharm. to be made into a syrup; but the only preparation of the Quince which it now directs is a mucilage of the seeds, made by boiling a dram of the seeds in eight ounces of water, till it acquires a proper consistence. This has been recommended in apthous affections, and excoriations of the mouth and fauces. It may be a more pleasant mucilage, but it is certainly a less efficacious one, than that of the simple gums.

[b] *Lewis Mat. Med. p.* 267.

AMYGDALUS COMMUNIS. THE ALMOND TREE.

SYNONYMA. Amygdala (nuclei). *Pharm. Lond. & Edinb.* Amygdalus amara & dulcis. *J. Bauh. Hist. vol. i. p.* 174. *Raii Hist. p.* 1519. *Gerard. Emac. p.* 1445. *Park. Theat. p.* 1515. Amygdalus foliis glabris, ovatis, utrinque acuminatis, serratis, petiolo imisque dentibus glandulosis. *Hal. Stirp. Helv. n.* 1080.

Varietates sunt,

α Amygdalus sativa. *Bauh. Pin. p.* 441. Amygdalus dulcis, putamine molliore. *Tournef. Inst. p.* 627. Amandier à coque tendre, vel Amandier des Dames. *Du Hamel. Arbres fruit. T. i. p.* 120. *tab.* 5.

Sweet Almond Tree.

β Amygdalus amara. *Tournef. Inst. p.* 627. Amandier à fruit amer. *Du Hamel. l. c. p.* 123.

Bitter Almond Tree.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 619.

Ess. Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupa* nuce poris perforata.

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Sp. Ch. A. foliis serraturis infimis glandulosis, floribus sessilibus geminis.

THIS tree divides into many branches, covered with a dark grey bark, and usually rises from twelve to sixteen feet in height: the leaves are elliptical, narrow, pointed at each end, minutely serrated, veined, of a bright green colour, beset with small glands towards the base, and stand upon short footstalks: the flowers are large, of a pale red colour, without peduncles, commonly placed in numerous pairs upon the branches, and appear before the leaves: the calyx is tubular, and divided at the brim into five blunt segments of a reddish colour: the corolla consists of five oval convex petals, with narrow claws: the filaments are about thirty, spreading, tapering, of unequal length, and of a reddish colour, inserted into the calyx, and furnished with simple antheræ: the germen is roundish and downy: the style is short, simple, and crowned with a round stigma: the fruit is of the peach kind, the outer substance of which is hard, tough, hairy, and marked with a longitudinal furrow where it opens; under this is a thick rough shell, which contains the kernel or almond. This tree is a native of Barbary,[a] and flowers in March and April.

The Almond-tree seems to have been known in the remotest times of antiquity, being frequently mentioned by Theophrastus and Hippocrates: it is probable however that this tree was not very common in Italy, in the time of Cato, as he calls the fruit by the name of Greek nuts.[b] It was cultivated in England by Lobel previous to the year 1570,[c] and though it does not perfect its fruit in this country, yet it is here very generally propagated for the beautiful appearance of its flowers, which are the more conspicuous by showing themselves early in spring before the leaves are expanded.

The fruit or seeds of most vegetables on being planted produce varieties, differing more or less from the parent plant and from

[a] Particularly in the hedges about Tripoli. See *Bauh. l. c.*

[b] See Pliny, *Lib.* 15. *cap.* 22. [c] Vide *Hort. Kew.*

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each other, and of the Almond-tree this difference is principally confined to the fruit, which is larger or smaller, the shell thicker or thinner, and the kernel bitter or sweet; hence the distinction into bitter Almonds and sweet Almonds, though the same species of tree affords both. Sweet Almonds are more used as food than medicine, but they are said to be difficult of digestion, unless extremely well comminuted;[4] their medicinal qualities depend upon the oil which they contain in the farinaceous matter, and which they afford on expression nearly in the proportion of half their weight. The oil thus obtained is more agreeable to the palate than most of the other expressed oils, and is therefore preferred for internal use, being generally employed with a view to obtund acrid juices, and to soften and relax the solids; in tickling coughs, hoarseness, costiveness, nephritic pains, &c. externally in tension and rigidity of particular parts. The milky solutions of Almonds in watery liquors, usually called emulsions, possess, in a certain degree, the emollient qualities of the oil, and have this advantage over the pure oil, that they may be given in acute or inflammatory disorders, without danger of the ill effects which the oil might sometimes produce, by turning rancid.* The officinal preparations of Almonds are the expressed oil and the emulsion; to the latter the London College directs the addition of gum arabic, which renders it a still more useful demulcent in catarrhal affections, stranguries, &c.

Bitter Almonds yield a large quantity of oil, perfectly similar to that obtained from sweet Almonds; but the matter remaining after the expression of the oil, is more powerfully bitter than the

[4] The Nuces oleosæ are not always easily digested: "but it appears that this inconvenience may be in a great measure obviated by a very diligent trituration, uniting very intimately the farinaceous and the oily part." See *Cullen's Mat. Med. vol. i. p.* 298.

* Several substances of themselves, not miscible with water, may, by trituration with Almonds, be mixed with it in this form, and thus fitted for medical use, as camphor, and various resinous and unctuous substances.

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Almond in its entire state. "Great part of the bitter matter dissolves by the assistance of heat both in water and in rectified spirit: and a part arises also with both menstrua in distillation."[e] Bitter Almonds have been long known to be poisonous to various brute animals,[f] and some authors have alledged that they are also deleterious to the human species, but the facts recorded upon this point appear to want further proof.[g] However, as the noxious quality seems to reside in that matter which gives it the bitterness and flavour, it is very probable that when this is separated by distillation, and taken in a sufficiently concentrated state, it may prove a poison to man,[h] as is the case with the common laurel, to which it appears extremely analagous. These Almonds are highly commended for the cure of hydrophobia by Thebesius, who experienced their good effects in twelve cases, in which a few (no particular quantity is mentioned) were eaten every morning.[i] And Bergius tells us, that bitter Almonds, in the form of emulsion, cured obstinate intermittents, after the bark had failed.[k]

[e] *Lewis Mat. Med. p.* 53.

[f] Particularly wolves, foxes, dogs, cats, and various kinds of birds. For which see Wepfer de Cicut. aquat. And many other instances are related in the Ep. Nat. Cur. See also *Daries Epist. de Amygdalis et oleo amararum æthereo.* And Lorry *de Venenis, p.* 17. From the sudden effects which this poison produces, and the convulsions and spasms which follow its exhibition, there can be no doubt of its acting directly upon the nervous energy.

[g] Formerly they were eaten to prevent the intoxicating effects of wine, as is noticed by Dioscorides, "et Plutarchus medicum filii Imperatoris Tiberii producit, qui hocce præsidio munitus inter quotidianas comessationes in bibendo reliquos omnes antecellere valuit." *Murr. Ap. Med, vol. iii. p.* 200. But from twelve of these Almonds Lorry experienced a sense of inebriation. *De Venenis, p.* 17.

[h] One drop of this essential oil killed a small bird in two minutes. See *Daries, l. c.*

[i] Vide *Nov. Act. Nat. Cur. tom. i. p.* 181. [k] *Mat. Med. p.* 413.

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AMYGDALUS PERSICA. COMMON PEACH TREE.

SYNONYMA. Persica. *Pharm. Dale.* 301. *Alston. ii.* 365. *Geoff. iii.* 798. *Lewis.* 483. *Edinb. New Dispens.* 249. *Murray. iii.* 241. *Bergius.* 413. Persica Malus. *Gerard. Emac.* 1447. *Park. Parad.* 580. *Raii. Hist.* 1515. *Du Hamel. Arb. fruit. T. ii. t.* 30.

Icosandria Monogynia. *Lin. Gen. Plant.* 619.

Gen. Ch. *Cal.* 5-fidus, inferus. *Pet.* 5. *Drupa* nuce poris perforata.

Sp. Ch. A. foliorum serraturis omnibus acutis, floribus sessilibus solitariis.

THE common Peach-tree grows to a considerable height, and sends off numerous spreading branches. Leaves long, narrow, pointed, elliptical, acutely serrated, on footstalks, alternate. Flowers sessile, purplish, solitary, large. Calyx tubular, divided at the margin into five ovate segments, and at the base beset with numerous scales. Petals five, inversely ovate, spreading, attached by short claws. Filaments numerous, tapering, inserted into the calyx, furnished with purplish antheræ. Germen roundish, downy. Style short, simple, terminated by a round stigma. Fruit too well known to require description.

The varieties of this species are α, *fructibus lanuginosis,* Common Peach. β, *fructibus glabris,* Nectarine. γ, *flore pleno,* the double-flowered Peach-tree.

It is not known of what country this tree is a native, but it was cultivated here in the time of Turner, 1562, and probably long before that period. From the name Persica, it may be supposed, to have been brought from Persia; but this is conjecture, nor is it ascertained to be the Περσικη μηλεα of Dioscorides, or Περσεα of Theophrastus.

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The fruit is known to be grateful and wholesome, seldom disagreeing with the stomach, unless this organ is not in a healthy state, or the fruit has been eaten to excess, when effects similar to those of the other dulco-acid summer fruits may be produced.

The flowers, including the calyx, as well as the corolla, are the parts of the Persica used for medicinal purposes; these have an agreeable but weak smell, and a bitterish taste. Boulduc[a] observes, "that when distilled without addition by the heat of a water bath, they yield one-sixth their weight, or more, of a whitish liquor, which communicates to a considerable quantity of other liquids a flavour like that of the kernels of fruits."

These flowers have a cathartic effect, and especially to children have been successfully given in the character of a vermifuge; for this purpose an infusion of a dram of the flowers dried, or half an ounce in their recent state, is the requisite dose. The leaves of the Persica are also found to possess an anthelmintic power, and from a great number of experiments appear to have been given with invariable success both to children and adults.

However, as the leaves and flowers of the Persica manifest in some degree the quality of those of the laurocerasus, they ought to be used with caution.

We find a "Syrupus florum persicorum," ordered in the Pharm. Wurt.

Menispermum Cocclus of Linnæus, which produces the Cocculus Indus, formerly an officinal article, belongs also to this natural order. It is figured by Rumphius under the name of Tuba baccifera.

The fruit, which is brought here from the East Indies, is said to be powerfully narcotic, and used for the purpose of intoxication.

[a] Mem. de L'Acad. 1714. p. 37.

[b] See *Coste et Willemet. Ess. de Mat. Med. indig. p. 32.*

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PRUNUS LAUROCERASUS. COMMON, or CHERRY LAUREL.

SYNONYMA. Laurocerasus. *Pharm. Dale.* 309. *Lewis.* 380. *Bergius.* 399. *Murray. iii.* 213. *Cullen. ii.* 282. Cerasus folio laurino. *Bauh. Pin.* 410. *Ger. Emac.* 1603. *Raii Hist.* 1549. *Duhamel. Traité des Arbres. t.* 133.

Icosandria Monogynia. *Lin. Gen. Plant.* 620.

Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Sp. Ch. P. floribus racemosis fol. sempervirentibus dorso biglandulosis.

A SHRUB or small tree, sending off long spreading branches, and covered with smooth brown bark. Leaves evergreen, elliptical, or obovate, blunt, rather serrated, furnished with yellowish glands at the base, of a shining deep green, placed alternately upon strong short footstalks. Flowers on short peduncles, in spikes, which arise at the alæ of the leaves. Calyx tubular, ovate, divided at the brim into five pointed reflexed segments. Corolla composed of five petals, which are small, white, roundish. Filaments about eighteen, tapering, inserted in the calyx, furnished with simple antheræ. Germen oblong, supporting a columnar style, terminated by a blunt stigma. Fruit drupous, resembling a small cherry both in its external and internal structure.

It is a native of the Levant, and appears to have been long cultivated in Britain, and by its polished evergreen leaves adds much to the beauty of our shrubberies.

The leaves of the Lauro Cerasus have a bitter styptic taste, accompanied with a flavour resembling that of bitter almonds,

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or other kernels of the drupaceous fruits. The flowers of this plant also manifest a similar flavour. The powdered leaves, applied to the nostrils, excite sneezing, though not so strongly as tobacco.

The kernel-like flavour which these leaves impart being generally esteemed grateful, has sometimes caused them to be employed for culinary purposes, and especially in custards, puddings, blancmange, &c. and as the proportion of this sapid matter of the leaf to the quantity of the milk is commonly inconsiderable, bad effects have seldom ensued. But as the poisonous quality of this laurel is now indubitably proved, the public ought to be cautioned against its internal use.

The following communication to the Royal Society, by Dr. Madden of Dublin, contains the first and principal proofs of the deleterious effects of this vegetable upon mankind. "A very "extraordinary accident that fell out here some months ago, has "discovered to us a most dangerous poison, which was never "before known to be so, though it has been in frequent use "among us. The thing I mean is a simple water, distilled from "the leaves of the *Lauro-cerasus*.—The water is at first of a "milky colour, but the oil which comes over the helm with it, "being in a good measure separated from the phlegm, by passing "it through a flannel bag, it becomes as clear as common water. "It has the smell of bitter almond, or peach kernel, and has been "for many years in frequent use among our housewives and "cooks, to give that agreeable flavour to their creams and puddings. It has also been much in use among our drinkers of "drams; and the proportion they generally use it in, has been "one part of laurel-water to four of brandy. Nor has this "practice, (however frequent) ever been attended with any "apparent ill consequences, till some time in the month of "September, 1728, when it happened that one Martha Boyse, "a servant, who lived with a person that sold great quantities "of this water, got a bottle of it from her mistress, and gave it to

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" her mother, Ann Boyse, as a very rich cordial. Ann Boyse " made a present of it to Frances Eaton, her sister, who was a " shopkeeper in town, and who she thought might oblige her " customers with it. Accordingly, in a few days, she gave about " two ounces of the water to a woman called Mary Whaley, who " drank about two-thirds of what was filled out, and went away. " Frances Eaton drank the rest. In a quarter of an hour after " Mary Whaley had drank the water, (as I am informed) she com- " plained of a violent disorder in her stomach, soon after lost her " speech, and died in about an hour, without vomiting or purging, " or any convulsion.

" The shopkeeper, F. Eaton, sent word to her sister, Ann Boyse, " of what had happened, who came to her upon the message, and " affirmed that it was not possible the cordial (as she called it) " could have occasioned the death of the woman; and to convince " her of it, she filled out about three spoonfuls, and drank it. " She continued talking with F. Eaton about two minutes longer, " and was so earnest to persuade her of the liquor's being inof- " fensive, that she drank two spoonfuls more, but was hardly " well seated in her chair when she died without the least groan " or convulsion. Frances Eaton, who, as before observed, had " drank somewhat above a spoonful, found no disorder in her " stomach or elsewhere; but to prevent any ill consequence she " took a vomit immediately, and has been well ever since."[a]

Dr. Madden mentions another case of a gentleman at Kilkenny, who " mistook a bottle of this laurel water for a bottle of ptisan; " what quantity he drank is uncertain, but he died in a few " minutes, complaining of a violent disorder in his stomach."

In addition to this, we may refer to the unfortunate case of Sir Theodosius Boughton, whose death, in 1780, an English jewry

[a] See *Phil. Trans. vol.* 37. *p.* 84. "*A Letter from T. Madden, M.D. giving an account of two women being poisoned by the simple distilled water of Laurel-leaves, and of several experiments upon dogs, by which it appears, that this laurel is one of the most dangerous poisons hitherto known.*"

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declared to be occasioned by this poison. In this case the active principle of the Laurocerasus was concentrated by repeated distillations, and given to the quantity of an ounce; the suddenly fatal effects of which must be still in the recollection of the public.

To brute animals this poison is almost instantaneously mortal, as amply appears by the experiments of Madden, Mortimer,[b] Nicholls,[c] Langrish,[d] Vater,[e] Fontana, and others.

The experiments, conducted by these gentlemen, show, that the laurel-water is destructive to animal life, not only when taken into the stomach, but also on being injected into the intestines, or applied externally to different organs of the body. It is remarked by Abbé Fontana, that this poison, even "when applied in a very small quantity to the eyes, or to the inner part of the mouth, without touching the oesophagus, or being carried into the stomach, is capable of killing an animal in a few instants; whilst applied in a much greater quantity to wounds, it has so little activity, that the weakest animals, such as pigeons, resist its action."[f]

The most volatile is the most active part of the Laurocerasus; and if we judge from its sensible qualities, an analagous principle seems to pervade many other vegetable substances, especially the kernels of drupaceous fruits; and in various species of the amygdalus, this sapid principle extends to the flowers and leaves

It is of importance to notice, that this is much less powerful in its action upon human subjects than upon dogs, rabbits, pigeons, and reptiles. To poison man the essential oil of the Laurocerasus must be separated by distillation, as in the spirituous or common

[b] *Phil. Trans. v. 37. p. 163.*

[c] & [d] Vide Langrish. *Phil. experiments upon brutes, to which is added a course of experiments with the Laurocerasus.*

[e] *Diss. de Laurocerasi indole venenata.* Also in his *Progr. de olei animal. contra hydrop.*

[f] See *Skinner's Translation. ii. p. 180.*

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laurel-water; and unless this is strongly imbued with the oil, or given in a large dose, it proves innocent.

Dr. Cullen observes, that the sedative power of the Laurocerasus acts upon the nervous system in a different manner from opium and other narcotic substances, whose primary action is upon the animal functions: for the Laurocerasus does not occasion sleep, nor does it produce local inflammation, but seems to act directly upon the vital powers. Abbé Fontana supposes that this poison destroys animal life, by exerting its effects upon the blood; but the experiments and observations from which he draws this opinion are evidently inconclusive. It may also be remarked, that many of the Abbé's experiments contradict each other.

Thus it appears, from the citation given above, that the poison of this vegetable, when applied to wounds, does not produce a fatal effect; but future experiments led the Abbé to assert, that the oil of the Laurocerasus, "whether given internally, or applied to the wounds of animals, is one of the most terrible and deadly poisons known."

Though this vegetable seems to have escaped the notice of Stoerck, yet it is not without advocates for its medicinal use. Linnæus informs us, that in Switzerland it is commonly and successfully used in pulmonary complaints. Langrish mentions its efficacy in agues; and as Bergius found bitter almonds to have this effect, we may from analogy conclude, that this power of the Laurocerasus is well established. Baylies found that it possessed a remarkable power of diluting the blood, and from experience recommended it in all cases of disease supposed to proceed from too dense a state of that fluid; adducing particular instances of its efficacy in rheumatism, asthma, and in schirrous affections. Nor does this author seem to have been much afraid of the deleterious quality of the Laurocerasus, as he directs a pound of its leaves to be macerated in a pint of water, of which he gives from thirty to sixty drops three or four times a day.

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Of the other species of Prunus, or Cherry, we find nothing deserving of particular attention.

The Sorbus aucuparia, or Mountain Ash, belongs to this order. Its berries, which appear in large beautiful clusters, are by some writers esteemed for their cathartic and antiscorbutic qualities.

PRUNUS SPINOSA. SLOE TREE.

SYNONYMA. Prunum sylvestre. *Pharm. Lond.* Prunus sylvestris. *Gerard. Emac. p.* 1497. *Park. Theat. p.* 1033. *Bauh. Pin. p.* 444. *J. Bauh. Hist. vol. i. p.* 198. *Raii Hist. p.* 1527. *Synop. p.* 462. Prunus spinosa, foliis glabris serratis ovato-lanceolatis, floribus breviter petiolatis. *Hall. Stirp. Helv. n.* 1080. *Hudson. Flor. Ang. p.* 212. *Withering. Bot. Arrang. p.* 509.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 620.

Ess. Gen. Ch. Cal. 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Gen. Ch. P. pedunculis solitariis, foliis lanceolatis glabris, ramis spinosis.

THE root is woody, divided, and spreading: the stem is shrubby, crooked, rises to the height of six or eight feet, covered with a purplish black coloured bark, and sends off many irregular spinous branches: the leaves are oval, obtusely lance-shaped, smooth, minutely serrated, of a deep green colour, and stand upon short footstalks:† the stipulæ are linear, notched, and discoloured at their points: the flowers are large, white, and stand separately

† The serratures of the leaves have been observed by Linnæus to be terminated by an excretory duct.

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upon short peduncles: the calyx is small, and divided at the brim into five oval segments: the corolla is composed of five oblong concave petals, attached to the calyx by short claws: the filaments are in number from twenty to thirty, spreading, tapering, white, inserted in the calyx, and furnished with orange coloured antheræ: the germen is roundish, the style simple and slender, and the stigma orbicular: the fruit is of the drupous or cherry kind, though much smaller, of a black colour, but covered with a bright blue exudation, and contains a nut with an oblong kernel. It is common in hedges, and the flowers appear in March and April, before the leaves are visible.

The fruit of the Sloe-bush, or, as it is frequently called, Black-thorn, is so harshly sharp and austere as not to be eatable till thoroughly mellowed by frosts: its juice is extremely viscid, so that the fruit requires the addition of a little water, in order to admit of expression. The juice obtained from the unripe fruit, and inspissated to dryness by a gentle heat, is the German acacia, and has been usually sold in the shops for the Egyptian acacia, from which it differs in being harder, heavier, darker coloured, of a sharper taste, and more especially in giving out its astringency to rectified spirit.[a]

The Pruna sylvestria have been employed for their styptic powers since the time of Dioscorides;[b] and as their astringency is united to the refrigerant qualities of the fruit, they may sometimes supersede those medicines of this class which are of a resinous or heating quality. They have been recommended in diarrhæas, hæmorrhagic affections, and as gargles, in tumefactions of the tonsils and uvulæ. Dr. Cullen considers the Sloe as the most powerful of the *fructus acerbi,* and adds, that he has often found it an agreeable and useful astringent; but he thinks the conserve of this fruit, as directed by the College, contains a larger proportion of sugar than is necessary.[c]

[a] Lewis *Mat. Med. p.* 522. [b] Diosc. *Mat. Med. Lib. i. cap.* 173.

[c] Vide *Mat. Med. vol. ii. p.* 41.

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The flowers, with their calyces, are moderately purgative, and for this purpose an ounce infused in a sufficient quantity of water, or rather whey, was experienced to be a pleasant and useful laxative.[d] The powdered bark, in doses of a dram, is said to cure agues.

[d] See J. Bauh. *Hist. tom. i. P. i. p.* 196. *& Fred. Hoffman. Diss. de præstantia remed. domest.* §. 26.

Dr. Withering says, "The tender leaves dried are sometimes used as a substitute for tea, and is I believe the best substitute that has yet been tried. The fruit bruised, and put into wine, gives it a beautiful red colour, and a pleasant subacrid roughness. Letters written upon linen or woollen with the juice of this fruit, will not wash out." *Bot. Arr. p.* 509.

PRUNUS DOMESTICA. COMMON PRUNE, Or PLUM TREE.

SYNONYMA. Prunum gallicum. *Pharm. Lond.* Prunus domestica. *Gerard. Emac. p.* 1497. Prunus vulgaris. *Park. Theat. p.* 1512. *Raii Hist. p.* 1526. Prunus foliis serratis, hirsutis, ovato-lanceolatis, floribus longe petiolatis. *Hal. Stirp. Helv. n.* 1079. Ut Linnæo videtur Prunus fructu parvo dulci atro-cæruleo. *Tournef. Inst. p.* 622.

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 620.

Ess. Gen. Ch. *Cal.* 5-fidus, inferus. *Petala* 5. *Drupæ* nux suturis prominulis.

Sp. Ch. P. pedunculis subsolitariis, fol. lanceolato-ovatis convolutis, ramis muticis. *Gemmæ floriferæ aphyllæ.* Mur.

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THIS species of Prunus grows much higher than the former; it is without spines, and covered with smooth bark of a dark brown colour: the leaves are oval, slightly indented at the edges, pointed, veined, of a pale green colour, and stand upon very short foot-stalks: the stipulæ are oval, pointed, membranous, and placed in pairs at the base of the peduncles: the flowers are large, and surround the branches upon separate peduncles: the calyx is divided into five narrow concave segments, and beset on the inside with a number of glandular hairs:[a] the corolla consists of five roundish white petals: the filaments are more than twenty, tapering, inserted in the calyx, and furnished with reddish antheræ: the germen is round, and supports a simple style, which is shorter than the filaments, and crowned with a globular stigma: the fruit is oblong, or egg shaped, consisting of a sweet fleshy pulp, covered with a dark violet coloured pellicle, and including in the centre an almond-shaped nut, or stone. It is a native of Britain, and flowers in April and May.

Among the many varieties of plums[b] we find considerable difficulty in referring with sufficient accuracy to that called by the London College Prunum gallicum; it is therefore probable that some of the synonyma introduced above, are not in this respect so correctly applicable as they ought to be.[c] The Syrian Plums were much esteemed by the ancients, particularly a species which

[a] See Withering, l. c.

[b] Du Hamel (*Arbres fruit. T.* 2. *p.* 65. *sq.*) describes forty-eight varieties: and Mayer (*Pomona Francon. T.* 1. *p.* 110.) makes them still more numerous.

The original parent of these varieties is not yet satisfactorily ascertained.—J. Bauhin refers it to the Pruna cerea minora præcocia.

[c] On this subject Professor Murray says, "Hisce Pharmacopœia Londinensi duce intelligo vulgaria ista oblonga, profunde violacea, ubivis in hortis reperiunda, cui varietati non audeo in brevitate descriptionum adscribere nomen Bauhinianum vel Tournefortianum, nisi sit Pruna oblonga cœrulea C. B. vel. Pr. fructu oblongo cœruleo Tournef." App. Med. vol. iii. p. 230.

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grew in the neighbourhood of Damascus,[d] and hence a variety of this fruit is still known by the name of Pruna damascena. According to Pliny,[e] the tree was brought from Syria into Greece, and from thence into Italy, where its fruit is repeatedly noticed by the Latin poet.[f]

All our garden plums are eaten at table, and when sufficiently ripe, and taken in a moderate quantity, prove a pleasant and wholesome food. But in an immature state, they are more liable to produce colicky pains, diarrhœa, or cholera, than any other fruit of this class; some attention to this circumstance is therefore always necessary. Considered medicinally, they are emollient, cooling, and laxative, especially the French prunes, which are imported here in their dried state from Marseilles; and though the laxative power of these is diminished by drying, yet it is observed by Dr. Cullen, that as they contain a great deal of the acid which they originally had, they have more effect in this way than the other dried fruits.[g] They are found to be peculiarly useful in costive habits, and are frequently ordered in decoction with senna or other purgatives. It is the pulp of this fruit which is directed in the Electuarium è Senna, or Lenitive electuary.

[d] See Dioscorides, (*Lib. i. cap.* 1. 174.) by whom the tree is called Κοκκυμηλεα, and the fruit Κοκκυμηλα.

[e] *Hist. Nat. L. xv. cap.* 13.

[f] It is also thus mentioned by Ovid:

Prunaque, non solum nigro liventia succo,
Verum etiam generosa, novasque imitantia ceras.

MET. *Lib. xiii. v.* 818.

[g] *Mat. Med. vol. i. p.* 254.

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CITRUS AURANTIUM. ORANGE-TREE.

SYNONYMA. Aurantium * hispalense. *Pharm. Lond. & Edinb.* Málus Arantia major. *Bauh. Pin. p.* 436. Malus Aurantia. *Gerard. Emac. p.* 1463. *Raii Hist. p.* 1658. Aurantium vulgare. *Ferrar. Hesp. p.* 377. *t.* 369. Malus Aurantia vulgaris. *Park. Theat. p.* 1508. *Ic. Miller Illust. & Regnault Botanique,* L'Oranger.

α Malus Arantia major. *Bauh. l. c.* *Seville Orange Tree.*
β Malus Arantia, cortice dulci eduli. *Bauh. l. c.* *China Orange-Tree.*

Class Polyadelphia. *Ord.* Icosandria. *Lin. Gen. Plant.* 961.

Ess. Gen. Ch. *Cal.* 5-fidus. *Petala* 5, oblonga. *Antheræ* 20, filamentis connatis in varia corpora. *Bacca* 9-locularis.

Sp. Ch. C. petiolis alatis, foliis acuminatis.

THIS handsome evergreen rises several feet in height, sending off many branches, and covered with a greyish bark: the leaves are nearly elliptical, pointed, smooth, entire, of a shining green colour, and stand upon strong winged footstalks: the flowers appear during the whole summer, and are large, white, and arise from the smaller branches upon simple and branched peduncles: the calyx is saucer-shaped, and cut at the brim into five small pointed teeth: the petals are five, oblong, white, concave, and beset with small glands: the filaments are about twenty, united at the base in three or more distinct portions, and furnished with yellow antheræ, placed vertically: the germen is roundish, supporting a cylindrical style, terminated by a globular stigma: the fruit is so well known, as not to require our description of it here.

* Aurantium has been supposed by some to be derived ab aureo colore corticis fructus; by others, Arantium, ab oppido Achaiæ. See *C. B. l. c.* Also *Ray l. c.*

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This tree, according to Mr. Aiton,[a] is a native of India; but it has been long cultivated in the warmer parts of Europe, and the fruit brought to us is chiefly the produce of Spain and Portugal. Since the time of Parkinson,[b] Orange-trees have been propagated here as ornamental green-house shrubs; but in this country the fruit rarely arrives at the perfection of that which is imported from Spain.

The China Orange, and Seville Orange, are both varieties of the same species; but it is only the latter which has a place in the Materia Medica of our Pharmacopœias, in which not only the juice and exterior yellow rind of this fruit are directed for medicinal use, but also the leaves and flowers.

The juice is a grateful acid liquor, which, by allaying heat, quenching thirst, promoting various excretions, and diminishing the action of the sanguiferous system, proves of considerable use in all febrile and inflammatory disorders. It is also a powerful antiseptic, and of great efficacy in preventing and curing the scurvy.[c] Though what is here observed relates to the juice of

[a] *Hort. Kew. vol. iii. p.* 101.

[b] 1629, See *Park. Parad. p.* 584. [c] See *Lind on Scurvy, p.* 163.

The practice of evaporating this juice, or making it into what has been called a rob, in order to preserve it a length of time on ship board, has been recommended; but Dr. Cullen says, "in many trials which I have made, I could not exhale it to such a consistence as would preserve it without addition, without my finding the acid a good deal changed. It acquires an acerbity and stipticity that does not allow it to be readily diffused in water; and I suspect it is not so readily miscible with the animal fluids as in its entire state. From Forster's observations in the voyage round the world, it was not found useful either in preventing or curing the scurvy; which perhaps may be accounted for, partly by the concentration bringing it nearer to the state of the fossile acids, or possibly by the dissipation of some volatile parts, perhaps a portion of aëriel acid; both of which circumstances may render it less fit for the cure of scurvy. I have therefore a bad opinion of the acid exhaled to a thick consistence; and judge the best way of preserving its virtues to be by a diligent depuration of it from its mucilaginous part, and putting it up in close vessels, without putting any oil on its surface, which is ready to be acted upon by the acid, and gives a disagreeable taint to it." *Mat. Med. vol. i. p.* 252.

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the Seville Orange, yet that of the China, by being united with a larger proportion of saccharine matter, is more agreeable to the taste, therefore mostly preferred, and may be taken more freely. These acids, by uniting with the bile, are said to take off its bitterness; hence Dr. Cullen thinks it "probable, that acid fruits taken in are often useful in obviating the disorders that might arise from the redundancy of bile, and perhaps from the acrid quality of it. On the other hand, however, if the acids are in greater quantity than can be, or are, properly corrected by the bile present, they seem, by some union with that fluid to acquire a purgative quality, that gives a diarrhœa, and the colic pains that are ready to accompany the operation of every purgative."[d]

The outer yellow rind of the fruit is a grateful aromatic bitter, and is commonly employed as a stomachic, a character in which it is deservedly much esteemed. By the union of its aromatic and bitter qualities it warms the stomach, promotes appetite, and gives tone and strength to the viscera. It contains a considerable portion of volatile aromatic oil, very different from that of any other bitter, except what is found in the lemon; and the combination of this oil with the bitter of the orange peel, according to Dr. Cullen, gives it peculiar virtues; but the Orange-peel being commonly employed in conjunction with other bitters, these virtues have not been ascertained.[e] He adds, that he has "made several observations, which justify the opinion that Orange peel may be particularly useful in restoring the tone of the stomach when it has been much impaired; but this does not appear so often as it should, because we employ it almost only in its dried state, and in too small a proportion, as we take it dried with a part of the white inert substance that is also in the rind of the Orange."[f]

It has been justly remarked,[g] that "Orange-peel appears to be very considerably warmer than that of lemons, and to abound

[d] *L. c.* [e] *Cullen, M. M. vol. ii. p.* 87. [f] *L. c.*

[g] See *Edinburgh New Dispensatory by Dr. Duncan, p.* 139.

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more with essential oil: to this circumstance, therefore, due regard ought to be had in the use of these medicines. The flavour of the first is likewise supposed to be less perishable than that of the other: hence the London College employ Orange-peel in the spirituous bitter tincture, which is designed for keeping; whilst in the bitter watery infusion, lemon-peel is preferred. A syrup, and distilled water, are for the same reason prepared from the rind of Oranges in preference to that of lemons."

Besides the use of Orange-peel as a stomachic, it has been much celebrated for the cure of intermittent fevers; and in testimony of its efficacy in most obstinate agues, we find several authorities cited by Professor Murray.[h] It has likewise been experienced to be a powerful remedy in menorrhagia, and in immoderate uterine evacuations; and for its good effects in these complaints, we have not only the assertion of foreign physicians, but also those of Doctors Whytt[i] and Hamilton.[k]

The flowers, which are extremely fragrant, and much used in perfumes, have a warm taste, accompanied with some degree of bitterness. "They yield their flavour by infusion to rectified spirit, and in distillation both to spirit and water: the bitter matter is dissolved by water, and on evaporating the decoction, remains entire in the extract. An oil, distilled from these flowers, is brought from Italy, under the name of oleum, or essentia neroli."[l]

The leaves of the Orange-tree have a bitterish taste, and, on being rubbed between the fingers and thumb, manifest considerable fragrancy; like the petals they are also beset with

[h] As Dubeus. *Medecin des pauvres. p.* 285. *sqq.* Both he and Nigrisolius declare it to be equal, if not superior in efficacy, to the Peruvian bark. See also Möhringius *Com. Noric.* 1736. *p.* 20. And Werlhof. *Com. Nor.* 1735. *p.* 98. *Murray. App. Med. vol. iii. p.* 289.

[i] See his *Works, p.* 662. [k] *De prax. reg. p.* 20.

[l] *Edinb. New Disp. p.* 139. Also called oleum distillatum florum naphæ.

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minute glands, which secrete an essential oil, and are easily discovered on holding the leaf betwixt the eye and the light. Both the leaves and the flowers,[m] but especially the former, have been in great estimation as a remedy for epilepsy, and various other convulsive disorders. Westerhoef, who seems to have first made public this virtue of the leaves, about thirty years ago, transmitted an account of their efficacy to De Haen,[n] who also experienced their good effects; after which they became a favourite remedy at Vienna, and numerous instances of their success in these complaints are published by several German physiciars.[o]

Their employment, however, in this country has been attended with less success; proofs of which are given by Professors Home[p] and Cullen.[q] The dose of the powdered leaves is from half a dram to a dram, two or three times a day, and proportionably in decoction.

The young unripe fruit formerly had a place in the Edinburgh Pharmacopœia, under the name of Aurantia curaslavensia, or Curasso oranges. The Limon Bergamotta of the Italians, from whom we have the essence so named, approaches more nearly to the Orange than to the lemon, as its leaves have winged footstalks.

[m] Bergius states the former to be tonic and the latter analeptic. *M. M. vol. ii. p.* 639.

[n] *Rat. Med. T.* 6. *p.* 305. *sqq.*

[o] Locher, who gave this medicine to fifteen epileptic patients, says, that nine were evidently much relieved by it, though not cured. *Obs. Pract. p.* 47.—See the authorities cited by Murray. *l. c.*

[p] *Clinical Experiments. p.* 211.

[q] *L. c.*

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CITRUS MEDICA. LEMON-TREE.

SYNONYMA. Limon. *Pharm. Lond.* & *Edinb.* Malus medica. *Bauh. Pin. p.* 435. *Gerard. Emac. p.* 1462. Malum citreum vulgare. *Ferrar. Hesp. p.* 56. *t.* 69. Malus citria sive medica. *Raii Hist. p.* 1654. *Park. Theat. p.* 1506. Le Citronier. *Regnault. Botanique.* Μηλια μηδικη *Theophrast.* & *Dioscor.* β Malus Limonia acida. *Bauh. Pin. p.* 436. Lime-Tree.

Class Polyadelphia. *Ord.* Icosandria. *Lin. Gen. Plant.* 901.

Ess. Gen. Ch. Cal. 5-fidus. *Petala* 5, oblonga. *Antheræ* 20, filamentis connatis in varia corpora. *Bacca* 9-locularis.

Sp. Ch. C. petiolis linearibus.

THIS tree is equally beautiful as that of the orange, which it much resembles, so that at a little distance they are not easily to be distinguished: the leaves however of the Lemon-tree are commonly larger, slightly indented at the edges, and are without those winged appendages at the footstalks, which constitute the specific character of the orange: the flowers, which appear most part of the summer, are large, and the outer side of the petals have usually a purplish tinge: the other parts of inflorescence resemble those of the orange: the fruit has a prominent apex, externally of a pale yellow or straw-colour, internally divided into nine cells, containing an extremely acid juice.

This tree is a native of the upper parts of Asia, from whence it was brought to Greece, and afterwards by Paladius to Italy.* Although it has been doubted whether Paladius was really the

* Etenim Citrus apud Medos et Persas imprimis frequens, dein Paladii diligentia in Italiam translata fuit: postea in Hispania in usum devenit, ut nemora & campos occuparit. *Bauh. Pin. p.* 435.

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first cultivator of this tree in Italy, yet it is evident it could not have been propagated there long before his time, as appears by the writings of Pliny;[b] nor is its cultivation noticed by Varro, Cato, or Columella.

After its introduction into Europe, we find Spain, Portugal, and France, became successively possessed of this valuable plant, with its congeners; and the Hesperian fruits are now produced in such abundance, that their exportation gives rise to a lucrative branch of commerce.

The Lemon-tree, like the orange, is common in our greenhouses; and according to the Hortus Kewensis, was first cultivated in Britain in the Oxford garden, previous to the year 1648.[c]

The juice of the fruit, which is more acid than that of the orange, possesses similar medical virtues, and therefore what we have already said of the latter will equally apply to the former. However this juice is always preferred where a strong vegetable acid is required. Saturated with the fixed vegetable alkali, it is in frequent extemporaneous use in febrile diseases; and by promoting the secretions, especially that of the surface, proves of considerable service in abating the violence of pyrexia. This medicine is also often employed to restrain vomiting. As an antiscorbutic, Lemon juice is also very generally taken on board ships, destined for long voyages; but even when well depurated of its mucilaginous parts, it is found to spoil by long keeping; to prevent which various means have been devised.[d] We are told that, by mixing it with a fifth or sixth part of brandy or rum, it underwent no change during thirty-two months;[e] but by being mixed with the spirit, it must have lost a part of its

[b] See *Hist. Nat. l.* 12. *c.* 3. [c] See *Hort. Oxon. ed.* 1.

[d] However, when purified as mentioned by Dr. Cullen, (which we have related of the orange juice) and kept in a proper cellar, it has been found to retain its qualities unimpaired for four years. Vide Georgii in *Vet. Acad. Handl.* 1774. *p.* 245. *sqq.*

[e] *Forster's Voyage, p.* 638.

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sharpness. As to reducing it to the state of a rob, we have already noticed the objections of Dr. Cullen in treating of the orange juice.

To preserve Lemon juice in purity for a considerable length of time, it is necessary that it should be brought to a highly concentrated state, and for this purpose it has been recommended to expose the juice to a degree of cold sufficient to congeal the aqueous and mucilaginous parts. After a crust of ice is formed, the juice is poured into another vessel; and by repeating this process several times, the remaining juice, we are informed, has been concentrated to eight times its original strength, and kept without suffering any material change for several years.[f] The ice first formed is wholly void of acidity, but the subsequent congelations become more and more imbued with the acid.

Whytt found the juice of Lemons to allay hysterical palpitations of the heart, after various other medicines had been experienced ineffectual;[g] and this juice, or that of oranges, taken to the quantity of four or six ounces a-day, has sometimes been found a remedy in the jaundice.[h]

The exterior rind of Lemons is a grateful aromatic bitter, but less hot than orange-peel, and yields in distillation a less quantity of oil: the oil is extremely light, almost colourless, in smell nearly as agreeable as the fresh peel, and frequently employed as a perfume: it is generally brought to us from the southern parts of Europe, under the name of Essence of Lemons. The Lemon peel,

[f] See *Georgii, l. c.*

Lemon juice also may be evaporated by the heat of the sun, till it forms a solid salt, in which state it was brought from Jamaica, and found extremely grateful to the taste, and in such a concentrated state, that one scruple of it dissolved in a quantity of water equal to the juice contained in a lemon, was rendered of the same degree of acidity. See Percival *Phil. Med. & Experimental Essays, p.* 219.

[g] *On Nervous Disorders.* See his Works, *p.* 649.

[h] Vide Saunders *Elements of the Practice of Physic, p.* 170.

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though less warm, is similar in its qualities to that of the orange, and is employed with the same intentions.

The Pharmacopœias direct a syrup of the juice, and the peel enters into the vinous and aqueous bitter infusions: it is also ordered to be candied: the essential oil is an ingredient in the spiritus amoniæ compositus, and other formulæ.

PUNICA GRANATUM. POMEGRANATE TREE.

SYNONYMA. Granatum. *Pharm. Lond. & Edinb.* Malus Punica sativa. *Bauh. Pin. p.* 438. *Park. Theat. p.* 1510. Malus Punica. *J. Bauh. Hist. vol. i. p.* 76. Malus Granata sive Punica. *Gerard. Emac. p.* 1450. Punica spinosa, foliis nitentibus, ellipticis, integerrimis, floribus sessilibus. *Hal. Stirp. Helv. n.* 1098. *Conf.* Du Hamel *Traité des arbres, t. 2. p.* 193. *et* Miller *Illustr. Syst. Sex.* β Punica floribus plenis. Theophrasti *et* Dioscoridi *arbor ejusque fructus dicitur* Πυρα; Hippocrati *arbor audit* Σιδη, *unde cortex fructus* Σιδιον vel Ροιης. *Flores Punicæ sativæ autem* Dioscoridi *et* Galeni Κυτινος *hodie* Balaustiorum Flores, *vocantur.*

Class Icosandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 618.

Ess. Gen. Ch. Cal. 5-fidus, superus. *Petala.* 5. *Pomum* multiloculare polyspermum.

Sp. Ch. P. foliis lanceolatis, caule arboreo.

THIS small tree rises several feet in height: it is covered with a brownish bark, and divided into many small branches, which are armed with spines: the leaves are oblong, or lance-shaped, pointed, veined, of a deep green colour, and placed upon short footstalks: the flowers are large, of a rich scarlet colour, and stand

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at the end of the young branches: the corolla is composed of five large roundish slender petals, with narrow claws, by which they are inserted into the calyx: the calyx is large, thick, fleshy, tubular, of a brownish red colour, and divided at the extremity into five pointed segments: the filaments are numerous, short, bent inwards, furnished with yellow antheræ, and attached to the calyx: the germen is roundish, and supports a simple style, of the length of the filaments, and terminated by a globular stigma: the fruit is about the size of an orange, and crowned with the five teeth of the calyx: the rind is thick and tough, externally reddish, internally yellowish, filled with a red succulent pulp,[a] contained in transparent cellular membranes, and included in nine cells, within which numerous oblong angular seeds are also lodged. This shrubby tree is a native of Spain, Italy, and Barbary, and flowers from June to September.

The Greek writers were well acquainted with the Pomegranate, as appears from what we have already mentioned under the *Synonyma;* and Pliny tells us that its fruit was usually sold in the neighbourhood of Carthage.[b] The cultivation of this tree in England is first to be dated from the time of Gerard, in 1596;[c] and though its fruit seldom arrives to a state of perfection in this country,[d] yet the large and beautiful scarlet flowers[e] which it produces, still render it a desirable object of ornamental gardening. The rind of the fruit, and the flowers, the calyces of which may be included, are the parts directed in the Pharmacopœias for medicinal use. The fruit has been called cortex granati, malicorium, sidium, &c. In its smell there is nothing remarkable, but to the

[a] This is gratefully acid, somewhat like that of oranges.

[b] —— Circa Carthaginem punicum malum cognomine sibi vendicat; aliqui granatum appellant. l. 13. c. 19. p. 333. [c] Vide Aiton's Hort. Kew.

[d] Miller tells us that he obtained fruit from some of these trees which were planted in a warm situation, but they had not the proper flavour.

[e] The double flowered sort, more especially, makes a very beautiful appearance.

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taste it is very astringent. "With water it yields near half its own weight of a very austere extract, but gives out very little to rectified spirit; its astringent matter, like that of the fruit of the acacia tree, seeming to be indissoluble in spirituous menstrua: in this respect the astringency of the fruit differs from the latter,"[f] which are named Balaustium or Balaustine flowers; these are commonly taken from the double-flowered variety, and like the rind have little or no smell, but a mild bitterish styptic taste. They are both powerful astringents,[g] and with this effect have long been successfully employed in diseases both internally and externally. Dr. Cullen observes that "the strong styptic taste of this bark, "and the black colour it strikes with green vitriol, shew sufficiently "its astringent power; and it is commonly supposed to be among "the strongest of this kind. As at the same time, it gives out "such a large portion of its substance to water in infusion or "decoction, it seems to be particularly fit for affording a liquid "astringent, and I have frequently found it particularly useful "in gargles, in diarrhœa, and in external applications. That it "is so powerful an astringent internally used, as to be more "dangerous than others, I cannot perceive; and that it has ever "had the power of suppressing the catamenia, seems to me very "doubtful."[h] The dose, in substance, is from half a dram to a dram; in infusion or decoction, to half an ounce.

[f] Lewis Mat. Med. p. 328.

[g] Virtus *corticis:* validus adstringens, coriaria; *florum:* paullo mitior; *pulpæ* refrigerans, restringens. Berg. M. M. p. 398.

[h] M. M. vol. ii. p. 44.

[i] Usus *cort.* externus, Laxitas uvulæ, Procedentia intestini. Berg. l. c.

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RIBES RUBRUM. RED CURRANT.

SYNONYMA. Ribes rubrum. *Pharm. Lond.* Ribes vulgaris fructu rubro. *Gerard. Emac. p.* 1593. *Raii Hist. p.* 1485. *Synop. p.* 456. Ribes fructu rubro. *Park. Theat. p.* 1561. Ribes vulgaris acidus ruber. *J. Bauh. Hist. ii. p.* 97. Grossularia, multiplici acino, sive non spinosa hortensis rubra. *Bauh. Pin. p.* 455. Ribes inerme floribus planiusculis stipulis minimis. *Hal. Stirp. Helv. n.* 818. *Hudson Flor. Ang. p.* 99. *Withering. Bot. Arrang. p.* 243.

α Ribes rutilum. *Red Currant.*

β Ribes album. *White Currant.*

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 281.

Ess. Gen. Ch. Petala 5 et *Stamina* calyci inserta. *Stylus* 2-fidus. *Bacca* polysperma, infera.

Sp. Ch. R. inerme, racemis glabris pendulis, floribus planiusculis.

THIS shrub grows five or six feet in height, is divided into many branches, and covered with a dark brown bark, except that of the young branches which is whitish or ash-coloured: the leaves are serrated, veined, divided into five, and sometimes seven lobes, of a pale green colour, and stand upon tapering footstalks, which are about the length of the leaves, and hairy towards the base: the bracteæ are small, oval, pointed, and placed at the base of the leaf stalks and peduncles: the flowers grow in lateral pendulous racemi, or clusters, and appear in April: the calyx is divided into five spreading, reflexed, pointed, oblong, concave, permanent

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segments, which are of a yellowish green colour: the corolla is composed of five small obtuse upright petals, of a yellowish colour, and inserted in the calyx: the filaments are five, tapering, erect, and inserted in the calyx: the antheræ are compressed, gaping at the edges, and attached at their sides to the filaments: the germen is roundish, placed below the corolla, and supports a cloven style, with obtuse stigmata: the fruit is a round shining red berry, of one cell, separated into two receptacles, and containing many roundish seeds. It is a native of Britain, and usually grows in dry woodlands.

As the white Currant-tree is merely a variety of the red, the fruit of both, whether considered in a botanical or medical sense, is perfectly analogous; therefore what is observed here of the latter will apply equally to the former.

It is well known that the red Currant is abundantly cultivated in our gardens, whence we are plentifully supplied with the fruit, which, from its grateful acidity, becomes universally acceptable, either as nature presents it, or variously prepared by art[a] with the addition of sugar. By Dr. Cullen, this fruit is classed with the alimentary plants, and from being generally and exclusively considered as such, it was not received in the British catalogues of the Materia Medica till that published in the last edition of the London Pharmacopœia.

The medicinal qualities of red Currants appear to be similar to those of the other subacrid fruits, which are esteemed to be moderately refrigerant, antiseptic, attenuant,* and aperient. They may be used with considerable advantage to allay thirst in most febrile

[a] "The juice is a most agreeable acid in punch. If equal weights of picked currants and pure sugar are put over the fire, the liquor that separates spontaneously is a most agreeable jelly." *Withering. l. c.* The juice of red currants, with sugar, is a common beverage at Paris, where it is generally preferred to orgeat, or lemonade.

* Hoffman and Boerhaave had great confidence in the efficacy of these fruits in obstinate visceral obstructions.

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complaints; to lessen an increased secretion of bile;[b] and to correct a putrid and scorbutic state of the fluids, especially in sanguine temperaments: but in constitutions of a contrary kind, they are apt to occasion flatulency and indigestion.

[b] See *Maclurg on the Bile*, where the effects of the vegetable acid are considered.

RIBES NIGRUM. BLACK CURRANT.

SYNONYMA. Ribes nigrum. *Pharm. Lond.* Ribes nigrum vulgo dictum folio olente. *J. Bauh. Hist. ii. p.* 98. *Raii Hist. p.* 1486. *Synop. p.* 456. Grossularia non spinosa fructu nigro. *Bauh. Pin. p.* 455. Ribes fructu nigro. *Park. Theat. p.* 1562. *Gerard. Emac. p.* 1593. Ribes inerme, olidum, calyce oblongo, petalis ovatis. *Hall. Stirp. Helv. n.* 819. *Hudson Flor. Ang. p.* 99. *Withering. Bot. Arrang. p.* 243.

Class. Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 281.

Ess. Gen. Ch. *Petala* 5 et *stamina* calyci inserta. *Stylus* 2-fidus. *Bacca* polysperma, infera.

Sp. Ch. R. inerme, racemis pilosis, floribus oblongis.

THE Black Currant-tree usually rises six or seven feet in height: the old wood is covered with a dark brown or blackish bark, but that of the younger shoots is of a whitish colour: the leaves are commonly divided into three lobes, much veined, irregularly serrated, of a deep green colour, and on the under side beset with many yellowish glands, which secrete an odoriferous fluid, impregnating the whole leaf; the leaf-stalks are similarly shaped to those of the red currant: the bracteæ, or floral leaves, are oval, short, and woolly: the flowers are produced in pendent bunches, upon slender pedicles, placed alternately upon the common racemus, or peduncle: the calyx is divided into five oval spreading segments, of a pale green or yellowish colour: the corolla is

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composed of five roundish petals: the nectarium is larger than that in the red currant, and the fruit or berries are black. In other respects, the parts of fructification correspond with the description already given of the red currant. It is a native of Britain, preferring a swampy ground, and flowers in May.

The berries of the black Currant are larger than those of the red; and we are told that in some parts of Siberia they grow to the size of an hazel nut. Besides having the properties in common with the *fructus acido-dulces*, these berries are also said to be peculiarly useful in sore throats, and to possess a diuretic power in a very considerable degree. From those qualities which they manifest to the organs of taste, there can be little doubt but that in cases of inflammatory angina, they may be advantageously employed to answer the same intentions as gargles:[a] the proofs however of their diuretic powers seem to want confirmation, as Forestus, on whose authority they rest, and who first noticed this property of the black currant, constantly prescribed it in combination with the seeds of wild carrot.[b]

The leaves of the black Currant are extremely fragrant, and have been likewise recommended for their medicinal virtue, which Bergius states to be mundificans, pellens, diuretica.[c]

The officinal preparations of the black currant berries, in the London Pharmacopœia, are the *syrupus ribis nigri*, and the *succus ribis nigri inspissatus*.

[a] From their efficacy in this way they acquired the name of Squinancy berries.

We may observe here, that the black currant jelly in common domestic use for this purpose, is rendered less efficacious by having too much sugar in its preparation.

Both the fruit of this, and of the red currant, afford a pleasant wine; and that made of the former is mentioned by Haller, "Ex eo optimum vinum fieri non deterius vinis verioribus viteis, quando annuum est." l. c. Smith *Nat. Hist. of Cork. p.* 359.

[b] *Opp. Lib.* 25. *Obs.* 10.

[c] *Mat. Med. vol. i. p.* 155. An infusion of these leaves is said to have the taste of green tea; and when prepared from the young leaves, is to some people peculiarly agreeable.

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ORD. XXIX. HESPERIDEÆ.

(From the *Hesperides*, whose orchards are said to have produced golden apples.)

CARYOPHYLLUS AROMATICUS. CLOVE TREE.

SYNONYMA. Caryophyllum aromaticum. *Pharm. Lond.* & *Edinb.* Caryophyllus aromaticus, fructu oblongo. *Bauh. Pin. p.* 410. *Raii Hist. p.* 1508. Caryophylli. *Park. Theat. p.* 1577. *Gerard. Emac. p.* 1535. Caryophyllus aromaticus, Indiæ orientalis, fructu clavato monopyreno. *Pluk. Alm.* 88. *t.* 155. *f.* 1. Caryophyllum. *Rumph. Herb. Amb. vol. ii. t.* 1. 2. *sq.* Caryophyllus Kruidnagelboom. *Houttuyn natuurlyke historie, vol. ii. P.* 3. *p.* 44. *tab.* 12. *fig.* 1. Le Geroflier. *Sonnerat Voyage à la Nouvelle Guinée. p.* 196. *tab.* 119.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 669.*

Ess. Gen. Ch. *Cor.* 4-petala. *Cal.* 4-phyllus, duplicatus. *Bacca* 1-sperma, infera.

Sp. Ch. C. foliis ovato-lanceolatis oppositis, floribus terminalibus, &c. *Mill. Dict.*

* The Caryophyllus evidently belongs to the class Icosandria; and modern botanists refer it to the genus Eugenia.

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THIS tree never rises to any considerable height, but divides into large branches, which are covered with smooth greyish bark: the leaves are large, entire, oblong, lance-shaped, of a bright green colour, and stand in pairs upon short footstalks: the flowers terminate the branches in bunches or pannicles: the calyx of the fruit is divided at the brim into four permanent small pointed segments, and that of the flower is composed of four leafits, which are roundish, concave, deciduous, and placed above the germen: the corolla consists of four petals, which are roundish, notched, very small, and of a bluish colour:† the filaments are numerous, slender, inserted in the calyx, and furnished with simple antheræ: the germen is oblong, large, terminated by the calyx of the fruit, and placed below the insertion of the corolla: the style is tapering, and the stigma simple; the pericarpium is one celled, umbilicated, and terminated by the indurated converging calyx: the seed is a large oval berry.[a]

It is a native of the East Indies, the Moluccas, &c. and was lately found by Sonnerat in New Guinea. It has been asserted that the Dutch, who have long been in possession of the principal spice islands, destroyed all the Clove trees growing in the other islands, in order to secure a lucrative branch of commerce to themselves, and confine the cultivation of this tree to the island of Ternate;[b] but it appears that in 1770 and 1772, both the Clove and Nutmeg trees were brought from one of the Moluccas, and transplanted in the Isle of France, Bourbon, and Seickelles,[c] where they have been found to thrive very well, (see Nutmeg) though the Clove tree has since succeeded better in Cayenne.[d]

† We examined this plant preserved in spirit, in the possession of the President of the Royal Society, but without finding any corolla.

[a] The fruit, in its mature state, is known by the name *Anthophyllus.*

[b] Savary, *Dict. vol. ii. p. 653.*

[c] *Hist. de l'Acad. de Sc. de Paris*, 1772.

[d] Tessier, *in Rozier Journ. de Phys.* 1779.

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To bring this tree to the highest perfection, a peculiar mode of cultivation seems necessary, and is practised in Amboina by the Dutch, by whom it is kept a profound secret.[e] If the Clove was known to the Greeks, it cannot be discovered by their writings, nor is there any distinct account of it given by Pliny; but it seems in some measure applicable to the description of the Carunfel of Serapion, and the Charumfel Bellun of Avicenna,[f] so that this spice, as well as the nutmeg, was probably known to the Arabians.

The spice used here, and known by the name of Cloves, is the unexpanded flowers or rather calyces, which are found to be more aromatic than in their advanced state; they are of a dark brown colour, which they acquire from the smoke to which they are exposed; for in order to preserve the Cloves it is customary first to immerse them in boiling water, and then subject them to fumigation, or merely to fumigate them, and afterwards expose them to the sun for further exsication.

The Clove has a strong agreeable smell, and a bitterish hot not very pungent taste: these qualities are completely extracted by rectified spirit. After inspissating the filtered tincture, the remaining extract has little smell, but its taste is excessively hot and fiery. Cloves impregnate water more strongly with their smell than they do spirit, but not near so much with their taste; and in distillation with water they yield one-sixth of their weight of essential oil, smelling strongly of the Cloves, but less pungent than the spirituous extract.

"The oil of Cloves commonly met with in the shops, and received from the Dutch, is indeed highly acrimonious: but this oil is plainly not the genuine distilled oil of Cloves, but considerably more pungent, containing half its weight of an insipid expressed oil: it is probably from an admixture of the resinous part of the Clove that this sophisticated oil receives both its acrimony and high colour."[g]

[e] *Rumph. l. c.* [f] *Vide J. Bauh. Hist. vol. i. p.* 426.

[g] *Lewis, M. M. p.* 203.

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Clove is accounted the hottest and most acrid of the aromatics, and by acting as a powerful stimulant to the muscular fibres, may in some cases of atonic gout, paralysis, &c. supersede most others of the aromatic class; and the foreign oil, by its great acrimony, is also well adapted for several external purposes.

The essential oil is the preparation of this spice directed by the pharmacopœias, which, as well as the Clove itself, enters several officinal compositions.

MYRTUS PIMENTA. PIMENTO, JAMAICA PEPPER, ALL-SPICE.

SYNONYMA. Pimento. *Pharm. Lond.* Pimenta & Piper Jamaicensis. *Pharm. Ed.* Caryophyllus aromaticus Americanus, Lauri acuminatis foliis, fructu orbiculari. *Pluk. Phyt.* 155. f. 4. Amomum quorundam odore Caryophylli, J. B. Caryophyllus aromaticus fructu rotundo, Caryophyllon Plinii. *Bauh. Pin.* Piper adoratum Jamaicense nostratibus. *Raii Hist.* 1507. Myrtus arborea aromatica foliis laurinis. *Sloane's Jam.* vol. 2. p. 76. Caryophyllus foliis oblongo-ovatis glabris alternis, racemis terminalibus et lateralibus. *Browne's Jam.* p. 247. Caryophyllus foliis lanceolatis oppositis, floribus racemosis terminalibus & axillaribus. *Miller's Dict.*

Class Icosandria.* *Ord.* Monogynia. *Lin. Gen. Plant.* 217.

* "Some of these trees are frequently observed to be barren, which has introduced a notion among the people of Jamaica of their being male and female trees in general; and that some of the male or barren trees were necessary in every *walk;* which, as they are commonly many, is a vast detriment. It is however certain, that all those I have observed were hermaphrodites: and I am credibly informed, that those they call males, when lopped and broke like the rest for one or two years, do bear very well: which I am the more apt to believe, as I have never observed a distinct male or female flower on any of them." Browne, l. c.

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Ess. Gen. Ch. *Cal.* 5-fidus, superus. *Petala.* 5. *Bacca.* 2. s. 3-sperma.

Sp. Ch. M. floribus trichotomo-paniculatis foliis oblongo-lanceolatis. *Hort. Kew.*

Varietates, α foliis oblongo-lanceolatis acuminatis; acumine obtuso. β foliis ovalibus obtusis. *Hort. Kew.*

THIS handsome myrtle grows above thirty feet in height, and two in circumference; the branches near the top are much divided, and thickly beset with leaves, which by their continual verdure always give the tree a beautiful appearance; the bark is very smooth, externally, and of a grey colour; the leaves vary in shape, and in size, but are commonly about four inches long, veined, pointed, elliptical, and of a deep shining green colour; the flowers are produced in bunches, or panicles, and stand upon subdividing or trichotomous stalks, which usually terminate the branches; the calyx is cut into four roundish segments; the petals are also four, white, small, reflex, oval, and placed opposite to each other between the segments of the calyx; the filaments are numerous, longer than the petals, spreading, of a greenish white colour, and rise from the calyx and upper part of the germen; the antheræ are roundish, and of a pale yellow colour; the style is smooth, simple, and erect; the stigma is obtuse; the germen becomes a round succulent berry, containing two kidney-shaped flattish seeds. This tree is a native of New Spain and the West-India islands. In Jamaica it grows very plentifully, and in June, July, and August puts forth its flowers, which, with every part of the tree, breathes an aromatic fragrance.[a]

The Pimento tree was first introduced and cultivated in this country by Mr. Phil. Miller in 1739, and the figure we have annexed was drawn from a recent specimen, obtained from the

[a] "The leaves and bark are full of aromatic particles, which make them (the planters) extremely cautious of fire in all *Pimento Walks;* where, if it should once catch, it runs with great fury." Browne, l. c.

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garden of his Grace the Duke of Northumberland at Sion-House, where the plant is now in full bloom. Pimento, or the berries of this species of myrtle, are chiefly imported into England from Jamaica, and hence the name Jamaica Pepper. It is also named All-spice from its taste being supposed to resemble that of many different species mixed together.—When the berries arrive at their full growth, but before they begin to ripen,[b] they are picked from the branches, and exposed to the sun for several days, till they are sufficiently dried; this operation is to be conducted with great care, observing that on the first and second day's exposure they require to be turned very often, and always to be preserved from rain and the evening dews. After this process is completed, which is known by the colour and rattling of the seeds in the berries, they are put up in bags or hogsheads for the market. This spice, which was at first brought over for dietetic uses, has been long employed in the shops as a succedaneum to the more costly oriental aromatics; "it is moderately warm, of an agreeable flavour, somewhat resembling that of a mixture of cloves, cinnamon, and nutmegs. Distilled with water it yields an elegant essential oil, so ponderous as to sink in the water, in taste moderately pungent, in smell and flavour approaching to oil of cloves, or rather a mixture of cloves and nutmegs. To rectified spirit it imparts, by maceration or digestion, the whole of its virtue: in distillation it gives over very little to this menstruum, nearly all its active matter remaining concentrated in the inspissated extract.

[b] "Such of the berries as come to full maturity do, like many other seeds, lose that aromatic warmth for which they are esteemed, and acquire a taste perfectly like that of Juniper berries, which renders them a very agreeable food for the birds, the most industrious planters of these trees." Browne, l. c. "The berries when ripe are of a dark purple colour, and full of a sweet pulp, which the birds devour greedily, and muting the seeds, afterwards propagate these trees in all parts of the woods. It is thought that the seeds passing through them, in this manner, undergo some fermentation, which fits them better for vegetating than those gathered immediately from the tree; and I believe this is the fact." Long's Jamaica, vol. 3. p. 703.

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Pimento can scarcely be considered as a medicine: it is, however, an agreeable aromatic, and on this account is not unfrequently employed with different drugs, requiring such a grateful adjunct. Both the Pharmacopœias direct an aqueous and spirituous distillation to be made from these berries, and the Edinburgh College order also the Oleum essentiale piperis Jamaicensis.

MELALEUCA LEUCADENDRON. CAJEPUT-TREE, Or AROMATIC MELALEUCA.

Cajeput (oleum.) *Pharm. Murray. iii.* 319. *Bergius.* 639. *Ed. New Dispens.* 153.

SYNONYMA. Arbor alba (major) Caju Puti. *Rumph. Herb. Amb. vol. 2. p. 72. t.* 16. Melaleuca Kajupoetie. *Houttuyn Natuurlyke. Historie. P. 2. Sect. 3. p. 212. t.* 15. Melal. Leucadendra. *De Loureiro Flor. Cochin. p.* 468.

α M. latifolia, fol. falcatis lanceolatis acutis majoribus.

β M. angustifolia, fol. angustioribus oblongis vix falcatis brevioribus obtusis glaucis.

Polyadelphia Polyandria. *Lin. Mant.* 14.

Gen. Ch. *Cal.* 5-partitus, superus. *Cal.* 5-petala. *Filam.* multa, connata in 5 corpora. *Stylus* 1. *Caps.* semivestita calyce baccato, 3-valvis, 3-locularis.

Sp. Ch. M. Polyadelphia, foliis alternis lanceolatis subfalcatis quinquenerviis, spica elongata.

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THIS tree rises with a long flexible trunk, sending off irregular ascending branches, covered with a pale thick lamellated tough bark. Leaves linearly-lanceolate, entire, smooth, dense, five-nerved, ash-coloured, odorous, alternate, on short footstalks. Flowers white, sessile, in long subterminal spikes. Bracteæ floral, minute, ovate, pointed. Calyx tubular, five-parted, deciduous, of a brownish red. Corolla of five petals, roundish, concave, much longer than the calyx. Filaments about forty, united at the base in five or six bundles, long, capillary, unequal, inserted in the tube of the calyx, and furnished with small ovate incumbent antheræ. Germen below, roundish. Style filiform, somewhat swelled at the stigma. Capsule roundish, three-celled, three-valved, opening at the apex, and half inclosed by the calyx. Seeds numerous, oblong, small, compressed, angular.[a]

It is a native of India, where it commonly grows in the woods: the annexed figure was drawn from a very perfect botanical specimen of it in the herbarium of Sir Joseph Banks. The narrow leaved variety of this species was introduced into the Royal Garden at Kew, in 1775, from New Caledonia, by J. R. Forster, L L. D.[b]

The origin of Cajeput oil, or the vegetable from which it is obtained, was long unknown, and continued a matter of conjecture. As this essential oil is said to be somewhat similar in flavour and odour to the cardamom, an opinion very generally prevailed, that it was procured from a species of it. It is now however clearly proved to be derived from the Melaleuca Leucadendron, as observed by Linnæus in 1772,[c] and since confirmed by his son in the supp. plant.

That the leaves of this tree have an aromatic odour, resembling that of cardamom seed, and afford, by distillation, a fragrant

[a] This description is given on the authority of De Loureiro. l. c.

[b] *Hort. Kew.*

[c] *Diss. obs. in M. M. p. 5.*

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essential oil, manifesting this aromatic principle still more strongly, is asserted by Valentynus and Rumphius; but as they called the oil by no peculiar name, it was not recognized as the Cajeput oil until some of these leaves were sent to Amsterdam, where, upon being subjected to distillation, an oil was obtained, agreeing, in every respect, with that of the best Cajeput.[d] This essential oil appears to be lodged in the minute glands or vesicles of the leaves, analogously to that noticed of the hypericum perforatum.[e]

Cajeput oil, (called also Oleum Wittnebianum, from Wittneben, who gave an account of the process for obtaining it,) though unknown in Britain, is now admitted into the Materia Medica of all the principal foreign pharmacopœias.

It is imported into Europe from the East Indies, and is distilled chiefly in the Island of Banda. Thunberg[f] says that it has the appearance of an inflammable spirit, of a green colour, and so completely volatile that it evaporates entirely, leaving no residuum; its odour is of the camphoraceous kind, with a terebinthinate admixture: when it is applied to the nostrils copiously, its smell is at first ungrateful, but in a small quantity, or at a distance, its odour is very agreeable. Goetz,[g] on the contrary, says that it is limpid, or rather yellowish, and that on being kept in a vial not closely corked, it diffuses at first a pleasant odour, which gradually changes to one somewhat like that of turpentine, and at length becomes similar to that of savine. Its taste, he says, is aromatic, and approaching to that of the oil of rosemary. A single drop, applied to the temples, produces a peculiar sensation in the interior canthus of the eyes, and excites tears, which he

[d] Vide *Nieuwe vaderlandsche Letter-Oeffningen. P. 3. n. 3. bladz.* 104.

[e] The leaves of this melaleuca, according to De Loureiro, are an useful medicine; he says, they are "attenuant, strengthening, stomachic, diuretic, emmenagogue, and of service in obstructions of the liver, dropsy, debility of the stomach, and dyspnœa.

[f] In *Vet. Acad. Handl.* 1782. *p.* 223.

[g] *Comm. Nor.* 1731. *p.* 5.

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considers as the most certain criterion of the genuineness of the oil. From its exorbitant price it is frequently adulterated, and therefore is seldom found in perfect purity in Europe.

Cajeput oil appears to be a powerful medicine, and is much esteemed in Germany, as well as in India, in the character of a general remedy in chronic and painful complaints; it is used for the same purposes for which we employ the officinal æthers, to which it seems to have a considerable affinity; the Cajeput however is more potent and pungent: taken into the stomach, in the dose of five or six drops, it heats and stimulates the whole system, proving at the same time a very certain diaphoretic, by which probably the good effects it is said to have in dropsies and intermittent fevers, are to be explained. For its efficacy in various spasmodic and convulsive affections, it is highly esteemed; and numerous instances of its successful employment are published by different authors.[h] It has been also used both internally and externally with much advantage in several other obstinate disorders, as palsy, hypochondrical and hysterical affections, deafness, defective vision, tooth-ach, gout, rheumatism, menstrual obstructions, herpetic eruptions, &c. of which Thunberg gives a particular relation.[i]

The dose is from two to six and even twelve drops.

The berries and leaves of Myrtus communis, and the bark of Myrtus caryophyllata, or *cassiæ caryophyllatæ cortex,* referable to this order, have also been admitted into the Materia Medica; the former in the character of an aromatic and astringent, and the latter as a substitute for cloves.

[h] These are respectively cited by Murray, to whose work we refer those readers who wish for a fuller account of this article.

[i] *L. c.*

The odour of cajeput oil is remarkably destructive to insects: a few drops, in a cabinet or drawer, wherein animal or vegetable specimens of natural history are kept in a dried state, have on this account been found very useful.

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ORD. XXX. SUCCULENTÆ.

(From *Succus*, juice.) Juicy fleshy leaved Plants.

SEDUM ACRE. WALL STONE-CROP, or WALL PEPPER.

SYNONYMA. Sedum acre seu minus. *Pharm. Murray. v. iii. p. 344. Bergium. 375. Ed. New Dispens. 281.* Sempervivum minus vermiculatum acre. *Bauh. Pin. 283.* Vermicularis seu Illecebra minor acris. *Ger. Emac. 517.* Illecebra minor seu sedum tertium Dioscoridis. *Park. Theat. 735. Ray. Synop. 270.* Sedum acre. *Hall. Stirp. Helv. n. 966. Hudson. Flor. Ang. 171. With. Bot. Arr. 467. Ic. Curt. Flor. Lond.*

Decandria Pentagynia. *Lin. Gen. Plant. 579.*

Gen. Ch. Cal. 5-fidus. *Cor.* 5-petala. *Squamae* nectariferæ 5, ad basin germinis. *Caps.* 5.

Sp. Ch. S. fol. subovatis adnato-sessilibus gibbis erectiusculis alternis, cyma trifida.

ROOT perennial, slender, creeping. Stalks several together, about three inches high, covered with leaves. Leaves oval, blunt, short, fleshy, smooth, numerous, without footstalks, closely investing the stalk, placed in an imbricated order. Flowers yellow, in subterminal trifid cymæ. Calyx permanent, divided into five segments, which are tapering, thick, blunt. Corolla composed of five pointed petals, which are more than twice the size of the segments of the calyx. Filaments ten, tapering, about the length

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of the corolla, and furnished with yellow antheræ. Germen oblong, yellow, terminating in five styles, furnished with simple stigmata. Capsules five, pointed, containing minute oval brownish seeds.

This is a common British plant, growing on houses, walls, and gravelly banks. Like many other plants of this natural order it receives its nourishment principally from the air, in proof of which it continues to grow when detached from the ground, and suspended by the root.

It resembles the Sedum sexangulare very much, so that some botanists have considered the latter as only a variety of the former. The difference however is sufficiently specific both in a botanical and medical sense;[a] the latter being devoid of the pungent biting taste which characterizes the plant here figured.

This species of Sedum, in its recent state, is extremely acrid, like the Hydropiper; hence, if taken in large doses, it acts powerfully on the primæ viæ, proving both emetic and cathartic; applied to the skin, as a cataplasm, it frequently produces vesications and erosions. Boerhaave therefore imagined that its internal employment must be unsafe; but experience has discovered that a decoction of this plant is not only safe, but of great efficacy in scorbutic complaints; for which purpose a handful of the herb is directed by Below[b] to be boiled in eight pints of beer till they are reduced to four, of which three or four ounces are to be taken every, or every other, morning. Milk has been found to answer this purpose better than beer.[c]—Not only ulcers simply scorbutic, but those of a scrophulous and even cancerous tendency, have been cured by the use of this plant, of which Marquet[d] relates

[a] Mr. Curtis has remarked, that "the leaves of S. Acre are short, broad at the base, and at a considerable distance asunder, while those of the Sexangulare are nearly of the same thickness throughout, longer, more numerous, and placed in six rows or angles."

[b] A Swedish Phytician. V. *Misc. Nat. Cur. Dec.* 1. *Ann.* 6. *Obs.* 22. *p.* 49.

[c] *Lange. Remed. Bruns. Domest. p.* 121. [d] *Mem. sur L'illecebra. &c.*

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several instances. He likewise found it useful as an external application in destroying fungous flesh, and in promoting a discharge in gangrenes and carbuncles.

Another effect for which this plant has been esteemed is that of stopping intermittent fevers.

SAXIFRAGA GRANULATA. WHITE SAXIFRAGE.

SYNONYMA. Saxifraga alba. *Pharm. Dale.* 235. *Lewis.* 590. *Murray. iii.* 355. *Bergius.* 367. Saxifraga rotundifolia alba. *Bauh. Pin.* 309. Saxifraga alba. *Ger. Emac.* 841. Saxifraga alba vulgaris. *Park. Theat.* 424. *Ray. Hist.* 1048. *Synop.* 354. *Haller. Stirp. Helv. n.* 976. S. granulata. *Hudson. Flor. Angl.* 159. *Wither. Bot. Arr.* 434. *Ic. Flor. Dan.* 514. & *Flor. Lond.*

Decandria Digynia. *Lin. Gen. Plant.* 559.

Gen. Ch. *Cal.* 5-partitus. *Cor.* 5-petala. *Caps.* 2-rostris, 1-locularis polysperma.

Sp. Ch. S. foliis caulinis reniformibus lobatis, caule ramoso, radice granulata.

ROOT perennial, consisting of a number of small bulbs adhering to the fibrous part. Stalk somewhat branched, about a foot high, round, hairy towards the bottom, and scantily supplied with leaves. Leaves irregularly kidney-shaped, a little hairy, slightly divided into lobes, concave, those near the root furnished with long hairy footstalks. Calyx divided into five segments, which are hairy, oval, pointed, viscous. Corolla consisting of five white spreading petals, which at the upper extremity are broad, at the base narrow, and of a yellow colour. Filaments ten, tapering, supporting yellow antheræ. Germen roundish, standing below the corolla, and surrounded by a green gland. Styles two, shorter than the

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filaments, furnished with hollow stigmata. Capsule somewhat oval, two-celled, and furnished with two beaks or horns. Seeds numerous, very small, black.

It is a native of England, but not very commonly met with: dry meadows and pastures are the situations it affects. Its flowers appear in April and May.

Linnæus describes the taste of this plant to be acrid and pungent, which we have not been able to discover: neither the tubercles of the root, nor the leaves manifest to the organs of taste any quality likely to be of medicinal use, and therefore though this species of Saxifrage has been long employed as a popular remedy in nephritic and gravelly disorders, yet we do not find either from its sensible qualities, or from any published instances of its efficacy, that it deserves a place in the Materia Medica.

The superstitious doctrine of *Signatures* suggested the use of the root, which is a good example of what Linnæus has termed radix granulata. The bulbs or tubercles of such roots answer an important purpose in vegetation, by supplying the plants with nourishment and moisture, and thereby enabling them to resist the effects of that drought to which the dry soils they inhabit peculiarly expose them.

Sedum Telephium (Orpine) is also admitted of the Materia Medica in the foreign pharmacopœias; it has not the acrid characters of the species here figured, but on the contrary is bland and mucilaginous. It is said to be diuretic, and, according to Dr. Withering, is used with success to cure the piles. Sempervivum tectorum (common House-leek) which is nearly allied to the Telephium in botanical affinity, likewise abounds with a mucilaginous juice, said to be an useful application to burns, creeping ulcers, and in apthous cases. Cactus Opuntia (common Indian Fig) and Portulaca oleracea (Garden Purslane) both of this natural order, afford a similar juice, which also has been applied to medical purposes.

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ORD. XXXI. COLUMNIFERÆ.

(From *columna* a pillar, and *fero* to bear.)

Plants whose stamens and pistil have the appearance of a column or pillar in the centre of the flower.

ALTHÆA OFFICINALIS. MARSH-MALLOW.

SYNONYMA. Althæa. *Pharm. Lond.* & *Edinb.* Althæa Dioscoridis et Plinii. *Bauh. Pin. p.* 315. Althæa vulgaris. *Park. Theat. p.* 303. *Raii Hist.* 602. *Synop.* 252. Althæa Ibiscus. *Gerard. Emac. p.* 933. Althæa sive Bismalva. *J. Bauh. Hist. vol. ii. p.* 945. Althæa tomentosa herbacea, caule erecto, foliis cordato-lanceolatis obsolete trifidis. *Hal. Stirp. Helv. n.* 1047. Althæa officinalis. *Flor. Dan. tab.* 530. *With. Bot. Arrang. p.* 735. Αλθαια f. ιβισκος *Dioscorid.*

Class Monadelphia. *Ord.* Polyandria. *Lin. Gen. Plant.* 839.

Ess. Gen. Ch. Cal. duplex; exterior 9-fidus. *Arilli* plurimi, monospermi.

Sp. Ch. A. foliis simplicibus tomentosis.

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THE root is perennial, long, tough, white, and fibrous: the stalk is upright, firm, woolly, somewhat branched towards the top, and rises to the height of three or four feet: the leaves are ovalish, or heart-shaped, commonly with a lobe on each side, pointed, irregularly serrated, covered with a soft down, and stand upon long round footstalks: the stipulæ are two, narrow, and placed at the base of each leaf-stalk: the flowers are large, and consist of five petals, inversely heart-shaped, indented at the apex, and of a pale purple colour: the calyx is double, the exterior consisting of nine and the interior of five narrow pointed segments: the stamina are numerous, united at the base, and terminated by kidney-shaped antheræ: the germen is orbicular: the styli cylindrical, and furnished with many long bristly stigmata: the seeds are kidney-shaped, numerous, placed in a circle, and covered with an arillus. It is a native of England, and grows commonly near the sea shore, or about salt marshes, and flowers in August.

The Althæa seems to have been known to the ancients,[a] and has continued in very general officinal use by practitioners in every country where the science of medicine is regularly cultivated. "The dry roots of this plant, boiled in water, give out half their weight of a gummy matter,† which, on evaporating the aqueous fluid, forms a flavourless yellowish mucilage. The leaves afford scarcely one-fourth of their weight, and the flowers and seeds still less."[b] This gluten or mucilaginous matter with which the

[a] It is called Althæa, says Dioscorides, διὰ τὸ πολυαλθὲς αὐτῆς a multiplici excellentique quam in methodo præstat utilitate. l. 3. c. 163. p. 236. Hence also vismalva & bismalva, malvaviscus, malva-ibiscus, (Alston Lect. on the Mat. Med.) and therefore may be supposed to be the hibiscus of Virgil:—

Hœdorumque gregem viridi compellere hibisco.

Ec. ii. *l.* 30. et Ec. x. *l.* 71.

† This is thought to be nearly allied to Gum arabic, Tragacanth, Starch, &c. and it has been found to dissolve myrrh, and some other resinous substances, more readily than the first. Buchholz *Act. Nat. Cur. Tom. p.* 60. Expt. 32.

[b] Lewis *Mat. Med. p.* 40.

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Althæa abounds, is the medicinal part of the plant, and is commonly employed for its emollient and demulcent qualities. Its use is recommended where the natural mucus of membranes becomes acrid or abraded; "for obtunding and incrassating acrimonious thin fluids, in tickling coughs from defluctions on the fauces and lungs, in hoarseness, erosions of the stomach and intestines, stranguary,‡ and for lubricating and relaxing the passages in nephritic and calculous complaints."[c] Radix Althæa formerly had a place in many of the compounds in the pharmacopœias, but now it is only directed in the form of a syrup.

‡ We may here remark however, that in the opinion of Dr. Cullen these "demulcents can have no effect as such in the mass of blood, or in passing by the various excretions." *Mat. Med. vol. ii. p.* 411.

[c] Lewis l. c.

MALVA SYLVESTRIS. COMMON MALLOW.

SYNONYMA. Malva. *Pharm. Lond. & Edinb.* Malva sylvestris folio sinuato. *Bauh, Pin. p.* 314. Malva vulgaris flore majore, folio sinuato. *J. Bauh. Hist. vol. ii. p.* 949. Malva vulgaris. *Park. Theat. p.* 299. *Raii Hist. p.* 599. *Synop. p.* 251. Malva caule erecto, foliis lobatis, lobis serratis, quinis & septenis. *Hal. Stirp. Helv. n.* 1069. Malva sylvestris. *Gerard. Emac.* 930. *Withering. Bot. Arrang. p.* 738. *Curt. Flor. Lond.*

Class Monadelphia. *Ord.* Polyandria. *Lin. Gen. Plant.* 841.

Ess. Gen. Ch. Cal.. duplex; exterior 3-phyllis. *Arilli* plurimi, monospermi.

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Sp. Ch. M. caule erecto herbaceo, fol. septemlobatis acutis, pedunculis petiolisque pilosis.

THE root is perennial, thick, long, whitish, and furnished with many strong fibres: the stem is erect, round, strong, hairy, branched, and rises from one to three feet in height: the leaves are numerous, roundish, divided into five or seven lobes, unequally serrated or notched at the edges, and stand upon long round hairy footstalks: the two stipulæ are placed at the base of each footstalk: the flowers are large, consisting of five petals, which are inversely heart-shaped, sinuated at the apex, and of a purple colour, painted with veins of a deeper hue, and stand upon slender peduncles, which proceed from the bottom of the leaf-stalks: the calyx is double, the outer is composed of three, and the inner of five oval pointed hairy segments: the stamina are numerous, united at the base in a cylindrical shape, above separate, bending downwards, and furnished with kidney-shaped antheræ: the germen is roundish: the style cylindrical, short, and furnished with many filiform stigmata: the seeds are numerous, of a kidney-shape, and covered with a coat, or arillus, which opens inwardly. It is common under hedges and in waste grounds, and flowers from June till September.

This plant [a] has a strong affinity to the Althæa both in a botanical and in a medicinal respect; but the roots of the malva are useless, while those of althæa are of more efficacy than any other part of the plant. Accordingly we find that only the leaves and the flowers of the former are directed by the college for pharmaceutical purposes. Formerly when horticulture was little understood, and of course the choice of esculent vegetables extremely limited, the malva was admitted amongst the more common articles of

[a] "Malva quasi molva quod alvum molliat, ut inquit Festus, secundum tritum illum Scholæ Salern. versiculum, dixerunt malvam veteres quia molliat alvum. Gr. μαλαχη, απο μαλασσειν, ob eandem rationem. Utrumque etymon improbat C. Hoffman nec tamen meliora substituit." *Tournf.*

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diet;[b] and we are told that the Chinese still eat the leaves of mallow either raw as sallad, or boiled as spinage.[c]

Respecting the medicinal qualities of this plant, little remains to be said after the account we have given of Althæa, as the leaves afford a similar glutinous juice, which is fitted to answer the same purposes as those of marsh-mallow, and are therefore principally used in fomentations, cataplasms, and emollient enemas; but the internal use of these leaves seems to be wholly superseded by the radix althææ.[d]

[b] ——— Me pascunt olivæ
Me cichorea levesque malvæ. *Hor. l.* 1. *Od.* 31.

Exoneraturas ventrem mihi villica malvas
Attulit, & varias, quas habet hortus, opes. *Martial.*

The laxative quality of this plant is also mentioned by Cicero. *Epistol. lib.* 7. *epist.* 26.

[c] *Melanges interessans et curieux. Tom.* 4. *p.* 28.

[d] "Althæa in omnibus supra dictis efficacior radix." Plin. Nat. Hist. vol. 2. p. 662.

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ORD. XXXII. GRUINALES.

(From *Grus*, a Crane,)

Where the central part of the flower resembles a crane's bill after the petals have fallen off, as in the geranium, and some other genera where this appearance is not so evident.

GUAIACUM OFFICINALE. OFFICINAL GUAIACUM.

SYNONYMA. Guaiacum. Pharm. Lond. & Edinb. Miller's Dict. Guaiacum, foliis fere impetiolatis, bijugatis, obovatis & leniter radiatis; pinnis & ramulis dichotomis. *Browne's Jamaica,* 225. Lignum Vitæ, or Guaiacum. *Hughe's Barbadoes,* 142. Guaiacum Americanum primum, fructu aceris, sive legitimum. *Breyn. Prodr.* i. 31. Pruno vel Euonymo affinis arbor, folio alato, buxeo, subrotundo, flore pentapetalo cæruleo racemoso, fructu aceris cordato, cujus cortex luteus corrugatus, semen unicum majusculum nigricans nullo ossiculo tectum operit. *Sloane's Jam.* vol. ii. 133. & *Cat. P. Jam.* 186. Guaiacum flore cæruleo, fructo subrotundo. *Plum. Nov. Gen.* 39. Guaiacum, magna matrice. *Bauh. Pin.* 448. Lignum sanctum, Lignum Indicum, et Palus sanctus, *Quorundam.*

Class Decandria. *Order* Monogynia. *L. Gen. Plant.* 518.

Ess. Gen. Ch. Cal. 5-fidus inæqualis. *Petala* 5, calyci inserta. *Caps.* angulata 3 s 5-locularis.

Sp. Ch. G. foliolis bijugis obtusis.

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THE Guaiacum tree grows to the height of forty feet, and to the circumference of four or five, sending forth several large dividing and subdividing knotted branches: the bark of the trunk is of a dark grey colour, variegated with greenish or purplish specks, but of the branches it is uniformly ash-coloured, striated, and marked with fissures; "the roots are very thick in proportion to the size of the tree, and run a great way into the ground, in a perpendicular direction:" the leaves are pinnated, consisting of two, three, and sometimes four pair of pinnæ, with very short footstalks, smooth, shining, veined, of an inversely oval shape, and dark green colour: the flowers grow in clusters, or umbels, upon long peduncles, which spring from the divisions of the smaller branches: the calyx is of five leaves; these are concave, oblong, obtuse, patent, unequal, and deciduous; the petals are five, elliptical, concave, spreading, and of a rich blue colour; the stamina are erect, villous, taper from the base, and are crowned with yellowish hooked antheræ; the germen is oval, angular, and in its capsular state assumes the figure we have separately described; the style is short and tapering; the stigma is simple, and pointed; the seeds are solitary, hard, and of an oblong shape.

Linnæus makes three species of the Guaiacum, viz. the officinale, sanctum, and afrum; the specific difference between the two former he fixes wholly on the number of the pinnæ of the leaves, defining the first foliolîs bijugîs, and the second foliolîs multijugîs; but the leaves, according to the plant we have figured, commonly consist of three, and sometimes four pair of pinnæ,[a] so that this specific description is by no means distinctly characteristic. In a medical sense, the sanctum has been generally considered synony-

[a] There can be no doubt of our plant being the true officinale, we had it with several others from Mr. Aiton, whose extensive botanical knowledge is above our praise, and only to be equalled by that liberality of mind with which he communicates it. The testimony of Sir Hans Sloane is in opposition to Linnæus, for he observes that the leaves have sometimes four pair of pinnæ.

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mously with the officinale, and from the investigation we have given this subject, we believe it founded in botanical truth.[b]

This tree is a native of the West India Islands, and the warmer parts of America, and appears from the MS. of Sir Hans Sloane, in the British Museum, to have been first cultivated in this country by the Duchess of Beaufort in 1699.[c] The wood, gum, bark, fruit, and even the flowers of this tree, have been found to possess medicinal qualities.[d] The *Wood* is brought here principally from Jamaica in large pieces of four or five cwt. each, and, from its hardness and beauty, is in great demand for various articles of turnery ware.—It is extremely compact, and so heavy as to sink in water: the outer part is of a pale yellowish colour, the heart of a dark blackish brown, with a greater or less admixture of green. It scarcely discovers any smell, unless heated, or while rasping, in which circumstances it yields a light aromatic one: chewed, it impresses a slight acrimony, biting the palate and fauces. Its pungency resides in a resinous matter, which is totally extracted by digestion in rectified spirit, and partially by boiling water. The quantity of solid extract, obtained by rectified spirit, amounts to about one-fourth of the weight of the wood; with water, scarcely one-sixth is obtained.[e] The *Gum*, or rather gummy resin, is obtained by wounding the bark in different parts of the body of the tree, or by what has been called jagging. It exudes copiously from the wounds, though gradually; and when a quantity is found accumulated upon the several wounded trees, hardened

[b] Monardus divides the wood into three sorts, and C. Bauhin adopts two of these by the distinctions of Guaiacum magna matrice, and the Guaiacum propemodum sine matrice: these circumstances, however, depend upon the age, size, &c. of the tree. The icons of these species, given by Blackwell and Regnault, cannot, we presume, be considered as decisive.

[c] Vide Aiton's Hort. Kew.

[d] Long's History of Jamaica, vol. 3. p. 725.

[e] Lewis's M. M. 330.

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by exposure to the sun, it is gathered and packed in small kegs for exportation. This resin is of a friable texture, of a deep greenish colour, and sometimes of a reddish hue; it has a pungent acrid taste, but little or no smell, unless heated. It contains more resin than the watery extract made from the wood; and more gummy matter than the spirituous extract.[r]—The Guaiacum tree also yields a spontaneous exudation from the bark, which is called the native gum, and is brought to us in small irregular pieces, ‖ of a bright semipellucid appearance, and differs from the former in being much purer.[s] The *Bark* contains less resinous matter than the wood, and is consequently a less powerful medicine, though in a recent state it is strongly cathartic. The *Fruit*, (says a late author) "is purgative; and for medicinal use, far excels the bark. A decoction of it has been known to cure the venereal disease, and even the yaws in its advanced stage, without the use of mercury." The *Flowers*, or blossoms, are laxative, and in Jamaica are commonly given to children in the form of syrup, which in appearance much resembles that of violets. It is only the wood and resin of Guaiacum which are now in general medical use in Europe; and as the efficacy of the former is supposed to be derived merely from the quantity of resinous matter which it contains, they may be considered indiscriminately as the same medicine. Guaiacum

[r] Des Marchais, Voyage en Guinée & Cayenne, tom. 3. p. 246. "The Gum, or rather the resin of this plant, transudes frequently of its own accord, and may be seen concreted on many parts of it at all seasons of the year; but it is generally found in greater abundance where the bark has been cut or wounded." Browne's Jam. 226.

‖ It is sometimes sophisticated by the negroes with the gum of the Manchineal tree, (a species of the Hippomane) but this is easily detected by dissolving a little in spirit of wine or rum. The true gum imparts a whitish or milky tinge; but the Manchineal gives a greenish cast. Long, l. c. 724. Möuch advises a few drops of Spirit. nitri dulc. to be added to the spirituous solution, and then to be diluted with water, by which the gum is precipitated in a blue powder; but the adulteration will appear floating in white striæ, &c. Vide Crell's Chem. Journ. P. 2. p. 78.

[s] Long, l. c.

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was first introduced in the Materia Medica soon after the discovery of America,[h] and previous to the proper use of mercury in the lues venerea, it was the principal remedy employed for the cure of that disease, and its great success brought it into such repute, that it is said to have been sold for seven gold crowns a pound;[i] but notwithstanding the very numerous testimonies in its favour ‡, it often failed in curing the patient, and was at length entirely superseded by mercury; and though it be still occasionally employed in syphilis, yet it is rather with a view to correct other vitia in the habit, than for its effects as an antivenereal.*

The general virtues of Guaiacum are stated by Bergius to be mundificans, sudorifera, diuretica, subcalefaciens, stomachica, and its use to be in syphilis, arthritis,† morbi cutis, odontalgia;[k] and

[h] Initium celebritatis dedit felix curatio, quam in insula St. Dominici Hispanus quidam superioris ordinis, qui morbum ab India muliere contraxerat, jam doloribus diris detentus, suadente famulo suo Indo, ex hoc ligno in semet experiebatur. Ejus exemplo præeunte, plures alii Hispani eodem modo contaminati ad idem auxilium fausto successu confugerunt. Quod quum post reditum Hispali ab hisce evulgaretur, hinc per totam Hispaniam, & inde per totum reliquum orbem, quem lues occupaverat, fama remedii increbuit. Monardes Simpl. Med. p. 341. Vide Murray's Ap. Med. vol. 3. 409. And according to Delgado, Guaiacum was used in Spain so early as 1508. (del modo de adoperare el Legno santo. Venet. 1529.)

[i] Vide Friend's Hist. vol. 2. p. 365. And Massa de Morb. gal. 71. says, Ligni libra una scutatis aureis undecim veniret.

‡ Vide Böhm Diss. variæ siphilidis therapiæ.

* Perhaps the opinions and facts adduced by Boerhaave, Astruc, Plenk, De Haen, Hutten, and lately by Mr. Hunter, may be considered in some measure as exceptions.—The last of these authors remarks, that the Guaiacum was first used in Europe as a remedy for the Syphilis in 1517; but from the authority we have cited above, it appears to have been employed nine years sooner.

† Though upon the authority of Mead, Pringle, and others, Guaiacum has been much employed in rheumatisms, yet it was of little estimation in the gout till Mr. Emerigon of Martinico, published his letters about thirteen years ago, (Specifique contre la goutte, &c.)

[k] Mat. Med. 346.

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to these we may add chronic rheumatism, scrophula, and some schirrous diseases.—To Dr. Cullen Guaiacum seems analogous to the nature of the balsams and turpentines, he therefore supposes it like these to be very diffusible in the system, and thereby to have a considerable power in stimulating the extreme vessels every where; and in this way he accounts for its power in chronic rheumatism, and from its passing off by the pores of the skin, he considers it a probable remedy in some cutaneous disorders.[l]

This opinion corresponds with Murray's, who says, —— Et hisce partibus resinosis quidem Guaiacum per minimos corporis nostri canales efficaciter penetrat, impacta resolvit & discutit, balsamicam virtutem exercet et sudorem potenter pellit, item evacuationes per alvum vel lotium, vel aliquando salivæ profluvium, ciet.[m] According to Lewis, where the excretory glands are obstructed, the vessels lax and flaccid, and the habit replete with serous humours, it has good effects: but in thin emaciated habits, and an acrimonious state of the fluids, it often does harm.[n]—We have frequently conjoined it with mercury and soap, and in some cases with bark or steel, and found it eminently useful as an alterative. In the pharmacopœias it is directed in the form of tincture and elixir; the latter is ordered by the Edinburgh college to be prepared two ways, viz. with rectified spirit, and the vinous spirit of sal ammoniac.[o] Of these compounds the dose may be from two

[l] Mat. Med. vol. 2. 197.

[m] Murray's Ap. Med. vol. 3. 408. [n] l. c. 331.

[o] Dr. Cullen observes, that "several physicians have apprehended mischief from the use of the Guaiacum in a spirituous tincture, and I am certain that it sometimes happens. It is therefore that in imitation of the very respectable Berger of Copenhagen I avoid the spirituous tincture of Guaiacum, and employ almost only the diffusion of it in water. In preparing this, having first with an equal part of hard sugar reduced the Guaiacum to a fine powder, I apply some portion of the yolk of an egg, or of a mucilage of gum arabic, and rubbing these together very carefully, I form an emulsion with water, or watery liquors, as may be thought proper. This preparation I give over night in such a quantity as

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scruples to two drams: the powder is generally given from 6 grains to 20, or even more, for a dose, either by itself, or in a fluid form, by means of mucilage or the yolk of egg. The Decoctum lignorum, (Pharm. Ed.) of which Guaiacum is the chief ingredient, is commonly taken in the quantity of a pint a day.

may open the belly once next day, which will happen to different persons from doses containing 15 to 30 grains of the Guaiacum." M. M. 199. Berger's formula is the following: ℞ G. guaiaci ℥ſs G. arabici ℥ij. Bene trita solv. in aquæ hyssopi vel alius distill ℥ix. Add. sacchari ℥ſs m. d. s. solutio, cujus duo cochlearia majora mane & vesperi capiantur, superbibito libra una decocti hordei vel avenæ. Vet. Acad. Handl. vol. 1. p. 74. Theden recommends the Guaiacum made into pills with soap of almonds, which is still more convenient (*neue Bemerk. u Ersahr, a. d. Wundarzneyk. und Arz.* P. 2. 204.).

OXALIS ACETOSELLA. WOOD-SORREL.

SYNONYMA. Lujula. Pharm. Lond. Oxalis Acetosella, scapis unifloris, fol. ternatis: foliolis obcordatis pilosis. *Thunb. Diss. de Oxal.* n. 5. *Curtis Flor. Lond. Withering's Bot. Arrang. p.* 470. *Relhan's Flor. Cant.* p. 176. Oxys scapo unifloro, foliis ternatis, radice squamoso-articulata. *Hal. Stirp. Helv.* n. 928. Oxys sive Trifolium acidum, flore albo & purpurascente. *J. Bauh.* II. 387. Trifolium acetosum vulgare. *Bauh. Pin.* 330. *Parkinson & Theat.* 746. Oxys Alba. *Gerard. Herb.* 1201. *Raii Synop.* p. 281. *Wood-Sorrel. Hist. Plant.* 1098. *Acetosella, et Alleluja, Quorundam.*

Class. Decandria. *Ord.* Pentagynia. *L. Gen. Plant.* 582.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* unguibus connexa. *Caps.* angulis dehiscens, 5-gona.

Sp. Ch. O. scapo unifloro, foliis ternatis obcordatis, radice dentata. *L. Syst. ed.* 13.

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THIS delicate little plant is excellently described by Mr. Curtis, (Flor. Lond.) we shall therefore adopt his description, as far as it coincides with our plan. The root is perennial, horizontal, scaly, and of a bright red colour; the leaves grow three together, inversely heart-shaped, of a yellowish green colour, frequently purple underneath, and beset with a few hairs; the leaf stalks are about three inches long, nearly upright, tender, proceeding from little bulbs, which form a kind of sheath, at the bottom these stalks are red and round, but towards the top grooved on one side: the flowers are white or flesh-coloured, and elegantly streaked with red veins. The flower-stalk is somewhat longer than the leaf-stalk, and furnished near the top with two oval pointed bracteæ, which partly surround it; the calyx is divided into five segments; these are short, permanent, bluntish, membraneous at the edges, and often spotted with purple; the petals are five, affixed to the receptacle by the claws, which bend a little inward just above where the claws adhere together, they are blunt, slightly crenated, and tinged at the bottom with yellow; the stamina are ten, upright, white, the five exterior the shortest; the antheræ are yellow and bilocular; the germen is quadrangular and green; the styles are five, very slender, a little longer than the stamina, and the stigma is blunt; the capsule is ovalish, pentagonal, spotted, divided into five cavities, each containing three seeds, which are heart-shaped, longitudinally grooved, convex on both sides, of a bright reddish brown colour, and inclosed within a shining white elastic arillus, by the bursting of which the seeds are thrown out.‡ This plant is a native of England, it flowers about April and May, and is commonly found in woods, or in shaded situations.[a]

The Acetosella is totally inodorous, but has a grateful acid taste,[b]

‡ As a distinguishing part of the generic character, Ray says, "Quod per maturitatem levi tactu dissiliens cum impetu semina ejaculantur, (hist. 1098.)

[a] Mr. Curtis observes, that this plant continues to produce seeds during the greatest part of the summer, without any appearance of expanded blossoms.

[b] This makes it useful in sallads, in some measure supplying the place of vinegar.

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which is more agreeable than the common sorrel, (Rumex Acetosa) and approaches nearly to that of the juice of lemons, or the acid of tartar, with which it also corresponds in a great measure in its medical effects, being esteemed refrigerant, antiscorbutic, and diuretic. It is recommended by Bergius in inflammatory, bilious, and putrid fevers, and from the cases adduced by Francus,[c] he concludes, "Acetossellam appetitum restaurare, vomitum consopire, alvum stringere, sitim, sedare, oris amaritiem tollere, cordis vires reparare, anginamque abigere."[d] The principal use, however, of the Acetosella, is to allay inordinate heat, and to quench thirst; for this purpose, a pleasant whey may be formed by boiling the plant in milk, which under certain circumstances may be preferable to the conserve directed by the London College, though an extremely grateful and useful medicine. Many have employed the root of Lujula, probably on account of its beautiful red colour rather than for its superior efficacy. An essential salt is prepared from this plant, known by the name of Essential Salt of Lemons, and commonly used for taking ink-stains out of linen.[e]

[c] De vera herba Antiquorum Acetosella, &c.

[d] Mat. Med. p. 379.

[e] This salt is made from the expressed juice. Vide Boerh. Chem. vol. 2. proc. 7. & Savary, Diss. de Sale Essent. Acetosellæ. p. 9. Thunberg found that the Oxalis cernua of the Cape of Good Hope, yields the salt in greater quantity than the Acetosella.—This salt, when genuine, which is seldom to be procured so,‖ is composed of the vegetable alkali and a peculiar acid, which seems more allied to the acid of sugar than that of tartar. Vide Bergman Act. Up. Nov. vol. 2. p. 215. where the manner of separating this acid is also given, and related by Murray. Ap. Med. vol. 3. p. 497.

‖ Vide Scheele in Görwells *nya tidningar*, 1775. n. 30. p. 237. and Savary, l. c. What is sold under the name of *Essential Salt of Lemons*, in this country, appears sometimes to consist of C. Tart. with the addition of a small quantity of vitriolic acid. MS. Lectures on Chemistry by Dr. Hamilton.

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LINUM USITATISSIMUM. COMMON FLAX.

SYNONYMA. Linum. *Pharm. Lond. & Edinb.* Linum arvense. *Bauh. Pin. p.* 214. Linum sativum. *Gerard, Emac. p.* 556. *Park. Theat. p.* 1335. *Raii Hist. p.* 1072. *Synop. p.* 362. Linum. *J. Bauh. Hist. iii. p.* 451. *Hall. Stirp. Helv. n.* 836. L. usitatissimum. *Huds. Flor. Ang. p.* 133. *Withering. Bot. Arrang. p.* 328. *Curt. Flor. Lond.* Λινον *Dioscor. L. 2. c.* 125. *Theoph.* 8. *Hist.* 7.

Class Pentandria. *Ord.* Pentagynia. *Lin. Gen. Plant.* 389.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Caps.* 5-valvis, 10-locularis. *Sem.* solitaria.

Sp. Ch. L. calycibus capsulisque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule subsolitario.

THE root is annual: the stalk is erect, round, smooth, branched towards the top, and rises about a foot and a half in height:[a] the branches are simple, alternate, and terminated by the flowers, which are solitary, and of a sky-blue colour: the leaves are lance-shaped, acute, sessile, smooth, glaucous, vertical, and alternately scattered over the stalk and branches: the calyx is divided into five segments, which are semi-lance-shaped, pointed, and slightly fringed with small hairs: the corolla is funnel-shaped, consisting of five petals, which are large, obovate, striated, and minutely scolloped at their extremities: the filaments are five, tapering, upright, about the length of the calyx, united at the base, and crowned with simple antheræ: the germen is oval: the five styles are filiform, erect, of the length of the filaments, and furnished with blunt stigmata:

[a] It is remarked by Haselquist, that in Egypt this plant rises with a strong stem to the height of four feet. *Resa til hel. Landet. p.* 462.

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the capsule is globular, divided into five valves, and ten cells: the seeds are solitary, glossy, and of a flattish oval shape, It is a native of Britain, and grows in corn fields and sandy pastures: the flowers appear in July.

Flax [b] is an article of such an extensive utility for various œconomical purposes, that the plant which furnishes it has obtained the trivial name of usitatissimum; and when it is considered that its seeds afford an oil equally useful in arts and in medicine, it may well be deemed an object of national importance. Sensible of this, the Society for the Encouragement of Arts, Manufactures, and Commerce, has laudably endeavoured to promote and extend the cultivation of this plant in Britain, and not without success. But still the greatest part of Flax and Linseed used in this country is the growth of the northern parts of Europe, where it is cultivated most abundantly.

"The seeds have an unctuous mucilaginous sweetish taste, but no remarkable smell; on expression, they yield a large quantity of oil, which, when carefully drawn without the application of heat, has no particular taste or flavour: in some properties it differs considerably from most of the other oils of this kind; not congealing in winter; not forming a solid soap with fixed alkaline salts; * acting more powerfully as a menstruum on sulphureous bodies, than any other expressed oil that has been tried. The seeds, boiled in water, yield a large proportion of a strong flavourless mucilage: to rectified spirit they give out little or nothing." [c]

[b] The bark of the plant is composed of numerous small tough longitudinal fibres, connected together with a glutinous matter, which is dissolved by maceration in water, leaving the naked fibres, which are then to be dried and beaten, by which means the inner membranous parts are easily separated; after this it is combed, and fit to be spun into thread.—It has been observed that the water in which this bark has been macerated, becomes poisonous to cattle, and on this account the practice of steeping it in any running stream or common pond, was prohibited by Statute 33d Henry VIII. cap. 17.

* Geoffroy, *Mem. de l'acad. des scien. de Paris l'ann.* 1741.

[c] Lewis, *M. M.* p. 397.

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Linseed appears to afford but little nourishment, and when taken as food has been found to impair the stomach, and produce great flatulency: effects, which are noticed of these seeds by Galen,[d] and since amply confirmed by Tragus, who relates[e] that, in consequence of a scarcity of corn in Zealand, the inhabitants were urged to the necessity of eating boiled Linseed, which occasioned a remarkable distention of the hypochondria, swellings of the face and other parts, which in several instances proved fatal.

Infusions and decoctions of these seeds, like other vegetable mucilages, are used as emollients or demulcents in hoarsenesses, coughs, and pleuretic symptoms, which frequently prevail in catarrhal affections; they are also recommended in nephritic pains and stranguries: for these purposes, a spoonful of the seeds unbruised is said to be sufficient for a quart of water.[f] The seeds are also much used externally in emollient and maturating cataplasms. The expressed oil is an officinal preparation, and is supposed to be of a more healing and balsamic nature than the other oils of this class;[g] it has therefore been very generally employed in pulmonary complaints; also in colics,[h] and constipations of the bowels.[i]

[d] Simp. L. 7. de alim. fac. l. 1. c. 32.

[e] See Raii *Hist. p.* 1073.

[f] *Lewis, l. c.*

[g] This subject is examined on treating of Olea europæa. p. 280.

[h] See Sydenham, *(Oper. cap. de pleur. p.* 265.) Haen, *(Rat. Med. P.* 1. *p.* 24. *P. ii. p.* 103.) and others.

[i] Haen, *l. c. P. ii. p.* 204. V. Swieten. *Com. vol. ii. p.* 143. Gallesky mentions several cases of constipation and colic, proceeding from different causes, successfully treated by this oil. See Abhandl. v. Miserere u. d. Kräften d. Leinöls in dies. Krankh. p. 75. seq. Also Lentin, Beob. einig. Krankh. p. 149. Vide Murray, App. Med, vol. iii. p. 485. seq.—It is used in common with other oils as a vermifuge.

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QUASSIA SIMARUBA. SIMARUBA QUASSIA.*

SYNONYMA. Simarouba. *Pharm. Lond. & Edinb.* Simaruba amara. *Aublet Hist. des Plantes de la Guiane Françoise. tom. ii. p.* 859. *tab.* 331, 332. Euonymus fructu nigro tetragono, vulgo Simarouba. *Barrere France equinoxiale. p.* 50. Le Simarouba vel Bois amer. *Des Marchais Voyages en Guinée et à Cayenne, vol. ii. p.* 124. *Bancroft's Nat. Hist. of Guiana, p.* 84. A Botanical and Medical account of the Quassia Simaruba. *Wright* in the *Transactions of the Royal Society of Edinb. vol. ii. p.* 73. *& seq.*

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 529.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Nectarium* 5-phyllum. *Pericarpia* 5, distantia, 1-sperma.

Sp. Ch. Q. floribus monoicis, foliis abrupte pinnatis: foliolis alternis subpetiolatis, petiolo nudo, floribus paniculatis. *Supp. Plant.*

THIS tree grows to a considerable height and thickness, and sends off alternate spreading branches: the bark which covers the trunks of the old trees, is black, and a little furrowed, but that of the younger trees is smooth, grey, and here and there marked with broad spots of a yellow colour: the wood is hard, white, and without any remarkable taste: the leaves are numerous, and stand alternately upon the branches; each leaf is composed of several pinnæ, nearly of an elliptical shape, on the upper side smooth, and of a deep green colour, on the under side whitish, and stand alternately upon short footstalks: the flowers are of a yellow colour, and placed on branched spikes, or long panicles: the

* "This tree is known in Jamaica by the names of Mountain Damson, Bitter Damson, and Stave-wood. The shops are supplied with this bark from Guiana; but now we may have it from our own islands at a moderate expense." Wright. l. c.

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calyx is small, and cut into five obtuse erect segments: the corolla is divided into five petals, which are sessile, equal, lance-shaped, bent outwards, and tripple the length of the calyx, into which they are inserted: the nectarium is composed of ten oval hairy scales, inserted at the base of the filaments: the stamina are ten, slender, equal, about the length of the corolla, and furnished with long antheræ: the receptacle is a fleshy substance, of an orbicular shape, and marked with ten furrows. The female flower (according to Dr. Wright, whose figure of the male plant we have given) is never found at Jamaica on the same tree which produces the male flower; it is furnished with five roundish germina adhering together: the style is cylindrical, erect, about the length of the corolla, and divided at the top into five recurved persistent stigmata: the fruit is an oval, black, smooth, fleshy, soft pulp, or drupa; the number of these drupæ is five on each common receptacle, but seldom more than two or three arrive at perfect maturity, when each contains an oblong pointed nut with a flattish kernel. It is a native of South America and the West Indies, and flowers in April.

Although the medicinal bark, which the roots of this tree are known to furnish, was first imported into Europe in the year 1713, it is but a few years since the Simaruba was botanically ascertained.

Linnæus at first supposed it to be the Pistacia foliis pinnatis deciduis, foliolis ovatis; but in the second edition of his Species plantarum and Mat. Med. it is recorded as the Bursera gummifera, and both these genera are referred to the Terebinthus major of Sloane, or the Birch turpentine-tree of Browne. However Jacquin, who examined the root of the Bursura, and compared its bark with that of Simaruba, found it to be very different. Linnæus therefore in his observations on the Mat. Med. published in 1772, very properly mentions it among those plants which are not sufficiently determined. About this time the Simaruba tree was discovered and investigated at Guiana by Aublet, and at Jamaica by Dr. Wright, from whose specimens it evidently appears to be a Quassia, and

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under this name it has since been described by the younger Linnæus in the Supp. Plantarum. Dr. Wright, to whose botanical researches we are much indebted, says, "in 1773, specimens of the fructification were sent (from Jamaica) in spirits, accompanied with a botanical account of the tree, to my late worthy friend Dr. Hope, Professor of Botany in the University of Edinburgh; also some dried bark from the roots. The following year, specimens, with similar description, were transmitted to my late learned friend Dr. John Fothergill, of London, who sent them to the celebrated Linnæus at Upsal, as appears by Professor Murray's Apparatus Medicaminum.[a] Dr. Fothergill caused elegant drawings to be made of this plant, and these drawings I now have the honour of presenting to the Royal Society of Edinburgh."[b] By the assistance of Mr. Alexander Anderson a plant of this species has been lately introduced into the Royal garden at Kew.[c] The cortex Simarubæ of the shops is the bark of the roots of this tree, which, according to Dr. Wright, "is rough; scaly, and warted. The inside, when fresh, is a full yellow, but when dry, paler: it has but little smell: the taste is bitter, but not disagreeable." "Macerated in water, or in rectified spirit, it quickly impregnates both menstrua with its bitterness, and with a yellow tincture. It seems to give out its virtue more perfectly to cold, than to boiling, water; the cold infusion being rather stronger in taste than the decoction; which last, of a transparent yellow colour whilst hot, grows turbid and of a reddish brown, as it cools. The milky appearance, which Jussieu

[a] Qualis vera ejusdem arbor sit, jamjam *Aubletii* indagine cognoscimus; ut tamen et mihi monere incumbat, b. *Linneum*, Equitem, litteris jam a. 1776. ineunte mihi datis, antequam *Aubletii* elegantissimum opus illi innotesceret, significasse, Simarubum Quassiæ speciem a se haberi. Ille autem Simarubæ cortex, quo cl. *Wright* (Conf. *Bibl. mea med. v. iii. p.* 483) arborem in Jamaica vulgarem vestitam esse innuit, pariter in alvi profluviis efficaci, *discrepat a vulgo usitato cortice, ut specimine mihi misso reperio, quod scilicet tenue est, tenacius, longe pallidius, obtectum extrinsecus verrucis exiguis fere stipitatis, valde amarum.*" Vol. iii. p. 458.

[b] L. c. p. 74. [c] See Aiton's *Hort. Kew.*

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says it communicates to boiling water, I have not observed in the decoction of any of the specimens which I have examined."[d]

The bark was first sent from Guiana to France in 1713 to the Count de Porchartrain, then Secretary of State, as a remedy of great efficacy in dysentery. In the years 1718 and 1725 an epidemic flux prevailed very generally in France, which resisted all the medicines usually employed in such cases; small doses of ipecacuanha, mild purgatives, and all astringents were found to aggravate, rather than to relieve, the disease: || under these circumstances, recourse was had to the cortex Simarubæ, which proved remarkably successful, and first established its medical character in Europe.‡ Dr. Wright says, "most authors who have written on "the Simaruba, agree, that in fluxes it restores the lost tone of "the intestines, allays their spasmodic motions, promotes the "secretions by urine and perspiration, removes that lowness of "spirits attending dysenteries, and disposes the patient to sleep; "the gripes and tenesmus are taken off, and the stools are changed "to their natural colour and consistence. In a moderate dose it "occasions no disturbance or uneasiness, but in large doses it pro-"duces sickness at the stomach and vomiting.

"Modern physicians have found from experience that this "medicine is only successful in the third stage of dysentery, "where there is no fever, where too the stomach is no way hurt, "and where the gripes and tenesmus are only continued by a

[d] Lewis *Mat. Med. p.* 606. || See Wright, l. c.

‡ Jesuitæ patri *Soleil* collegio Parisino adscripto anno 1713, quædam hujus corticis specimina miserunt, ille in dysenteria gravi, quæ anno 1718, Parisiis furebat, jussu Regio, fuit tentatus, bonos inde observatos effectus, anno 1723, reiterata experimenta uberius confirmarunt, variis itaque in locis in usum tractus efficaciam suam in sistenda dysenteria ubivis probavit Degner, Schwenk, Tissot, Grashuis, Bœnnicken, Werlhoff, testibus, efficacem quoque in alvi fluxu chronico & lienteria Schwenk, Tissot, Bœnnicken Jussieu sunt experti, in hæmorrhagia uteri Du Buisson & Jussieu: has ejus virtutes non modo a vi adstringente, qua pollet, pendere, sed illam ipsam materiem quoque horum morborum corrigere & e corpore educere, Schwenk & Jussieu ex eo probant, quod sub ejus usu excretiones aquosæ promoveri observentur. Spielman *Mat. Med. p.* 228.

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" weakness of the bowels. In such cases, Dr. Monro gave two " or three ounces of the decoction every five or six hours, with " four or five drops of laudanum; and found it a very useful " remedy. The late Sir John Pringle, Dr. Huck Saunders, and " many others, prescribed the cortex Simaruba in old and obsti- " nate dysenteries and diarrhœas, especially those brought from " warm climates. Fluxes of this sort, which were brought home " from the siege of Martinico and the Havannah, were completely " and speedily cured by this bark. The urine, which in those " cases had been high coloured and scanty, was now voided in " great abundance, and perspiration restored. Dr. James Lind, " at Haslar Hospital, says, that the Simaruba produced these effects " sooner and more certainly, when given in such quantity as to " nauseate the stomach. Dr. Huck Saunders remarks, that if the " Simaruba did not give relief in three days, he expected little " benefit from its farther use; but others have found it efficacious " in fluxes, after a continued use for several weeks.——" My own " experience, and that of many living friends, are convincing " proofs to me of the efficacy of this medicine, and I hope the " Simaruba bark will soon be in more general use." [e]

Dr. Wright recommends two drams of the bark to be boiled in twenty-four ounces of water to twelve; the decoction is then to be strained and divided into three equal parts, the whole of which is to be taken in twenty-four hours, and when the stomach is reconciled to this medicine, the quantity of the bark may be increased to three drams. To this decoction some join aromatics, others a few drops of laudanum to each dose.

[e] L. c. p. 78. It may here be remarked, that Dr. Cullen says, " we can perceive nothing in this bark but that of a simple bitter, the virtues ascribed to it in dysentery have not been confirmed by my experience, or that of the practitioners in this country; and leaving what others are said to have experienced to be further examined and considered by practitioners, I can only at present say, that my account of the effect of bitters will perhaps explain the virtues ascribed to Simaruba. In dysentery I have found an infusion of chamomile flowers a more useful remedy." *Mat. Med. vol. ii. p. 75.*

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QUASSIA AMARA. BITTER QUASSIA.

SYNONYMA. Quassia. *Pharm. Lond. & Edinb.* Quassia pentaphylla pediculis alatis, floribus racemosis terminalibus coccineis fructu pentaspermo. *Patris in Gazette salutaire,* 1777, *n.* 41. 42. item in *Rozier Observations sur la Physique. Tom. ix.* 1777. *p.* 140. *Supp. Plant. p.* 235.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 529.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Nectarium* 5-phyllum. *Pericarpia* 5, distantia 1-sperma.

Sp. Ch. Q. floribus hermaphroditis, foliis impari-pinnatis, foliolis oppositis sessilibus, petiolo articulato alato, floribus racemosis. *Suppl. Plant.*

THIS tree rises several feet in height, and sends off many strong branches: the wood is white and light; the bark is thin, and of a grey colour: the leaves are placed alternately upon the branches, and consist of two pair of opposite pinnæ, with an odd one at the end: all the leafets are of an elliptical shape, entire, veined, smooth, pointed, sessile, on the upper pagina of a deep green colour, on the under paler: the common footstalk is articulated and winged, or edged, on each side with a leafy membrane, which gradually expands towards the base of the pinnæ: the flowers are all hermaphrodite, of a bright red colour, and terminate the branches in long spikes: the bracteæ or floral leaves are lance-shaped or linear, coloured, and placed alternately upon the peduncles: the calyx is small, persistent, and five-toothed: the

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corolla consists of five lance-shaped equal petals, at the base of which is placed the nectary, or five roundish coloured scales: the filaments are ten, slender, somewhat longer than the corolla, and crowned with simple antheræ, placed transversely: the receptacle is fleshy and orbicular: the germen is ovate, divided into five parts, and supports a slender style, longer than the filaments, and terminated by a tapering stigma: the capsules are five, two-celled, and contain globular seeds. It is a native of South America, particularly of Surinam, and also of some of the West-India Islands.

The botanical character of this species of Quassia was known long before that of the Simaruba, as it is noticed in its proper place in the Sp. Plantarum, upon the authority of Dahlberg, when it was thought peculiar to Surinam; afterwards, Linnæus, in his Materia Medica, referred it to the Nux americana, foliis alatis bifidis of *Commelin.*‖ It appears, however, that the figure given in the Amœnitates Academicæ,[a] is not a faithful representation of this species; hence the younger Linnæus has observed, "Figura floris in Dissertatione Parentis de Quassia vera est, sed ramulus cum foliis ad aliam pertinet;"[b] and consequently those copied from it, and since published by Buchoz, and others, are with respect to the leaves erroneous;* this will be evident, upon consulting the plate and description of the Quassia given by Patris, as well as the Icon here annexed, which was drawn from a specimen in the possession of that able naturalist Dr. J. E. Smith, President of the Linnæan Society.[c]

‖ *Hort. i. p.* 423. *t.* 94.

[a] See *Vol. vi. p.* 416. [b] *Suppl. Plant. p.* 235.

* On this account, we have not referred to the figure of the Quassia, lately published by Dr. Lettsom in the *Mem. of the Med. Society.*

[c] The ample and valuable collection of specimens in Natural History made by Linnæus, and to which most of his cotemporary naturalists were contributors, are now in the possession of this Gentleman, who has obligingly offered us any assistance it may afford us in the prosecution of this work.

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The root, bark, and wood[d] of this tree, are all comprehended in the catalogues of the Materia Medica; but as the roots are perfectly ligneous, they may be medically considered in the same light as the wood, which is now most generally employed, and seems to differ from the bark in being less intensely bitter; the latter is therefore thought to be a more powerful medicine. Quassia has no sensible odour; its taste is that of a pure bitter, more intense and durable than that of almost any other known substance; it imparts its virtues more completely to watery than to spirituous menstrua, and its infusions are not blackened by the addition of martial vitriol. The watery extract is from a sixth to a ninth of the weight of the wood; the spirituous about a twenty-fourth. Quassia derived its name from a negro name Quassi, (by Fermin[e] written Coissi, and by Rolander Quass) who employed it with uncommon success, as a secret remedy in the malignant endemic fevers, which frequently prevailed at Surinam. In consequence of a valuable consideration, this secret was disclosed to Daniel Rolander, a Swede, who brought specimens of the Quassia-wood to Stockholm, in the year 1756; and since then the effects of this drug have been very generally tried in Europe, and numerous testimonies of its efficacy published by many respectable authors.[f] Various experiments with Quassia have likewise been made, with a view to ascertain its antiseptic powers, from which it appears to have considerable influence in retarding the tendency

[d] It may also be remarked, that the leaves, flowers, &c. likewise possess similar qualities. Toutes les parties du Cassie, écorce, bois, feuilles, fleurs, calice, enveloppes des graines, et les graines mêmes, sont d'une amertume energique, et dont n'approche aucun medicament jusqu'à present connu, &c. *Patris l. c. p.* 144.

[e] *Description de la Colonie de Surinam. Tom. i. p.* 212.

[f] Of these we may mention *Linnæus*, *Dahlberg*, *Blom*, *Fermin*, *Tissot*, *Thorstensen*, *Severius*, *Ebeling*, *Patris*, and many others, for which see *Murray App. Med. vol. iii. p.* 432. *& seq.*

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to putrefaction,[s] and this Professor Murray thinks cannot be attributed to its sensible qualities, as it possesses no astringency whatever, nor can it depend upon its bitterness, as gentian is much bitterer, yet less antiseptic. The medicinal virtues ascribed to Quassia are those of a tonic, stomachic, antiseptic, and febrifuge; it has been found very effectual in restoring the tone of the stomach, producing appetite for food, assisting digestion, expelling flatulency, and removing habitual costiveness, produced from debility of the intestines, and common to a sedentary life. Dr. Lettsom, whose extensive practice gave him an opportunity of trying the effects of Quassia in a great number of cases, says, "In debility, succeeding febrile diseases, the peruvian bark is "most generally more tonic and salutary than any other vegetable "hitherto known; but in hysterical atony, to which the female "sex is so prone, the Quassia affords more vigour and relief "to the system than the other, especially when united with the "*vitriolum album*, and still more with the aid of some absorbent." In dyspepsia, arising from hard drinking, and also in diarrhœas, the Doctor exhibited the Quassia with great success. But with respect to the tonic and febrifuge qualities of Quassia, he says, "I by no means subscribe to the Linnæan opinion, where the "author declares, *me quidem judice chinchinam longe superat:* it "is very well known, that there are certain peculiarities of the "air and idiosyncrases of constitution, unfavourable to the exhibition of the peruvian bark, even in the most clear intermissions of fever, and writers have repeatedly noticed it; but "this is comparatively very rare. About midsummer, 1785, "I met with several instances of low remittent and nervous "fevers, wherein the bark uniformly aggravated the symptoms, "though given in intermissions the most favourable to its success; "and wherein Quassia, or snake-root, was successfully substituted. "In such cases, I mostly observed, that there was great con-

[s] Vide Ebeling *Diss. de Quassia, &c. p.* 14. Severius, *Comment. in quo medicatæ Quassiæ vires expenduntur. p.* 77.

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" gestion in the hepatic system, and the debility at the same " time, discouraged copious evacuations."—And in many fevers without evident remissions to warrant the use of the bark, whilst at the same time increasing debility began to threaten the life of the patient, the Doctor found that Quassia, or snake-root, singly or combined, " upheld the vital powers, and promoted a critical " intermission of fever," by which an opportunity was offered for the bark to effect a cure.[h] It may be given in infusion, or in pills made from the watery extract, the former is generally preferred in the proportion of three or four drams of the wood to twelve ounces of water.

[h] See *Memoirs of the Med. Society, vol. i. p.* 150.

Dr. Cullen says, " I believe Quassia to be an excellent bitter, and that it will do all that any pure and simple bitter can do; but our experience of it in this country does not lead us to think it will do more; and the extraordinary commendations given of it are to be ascribed to the partiality so often shewn to new medicines." *Mat. Med. v. ii. p.* 74.

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ORD. XXXIII. CARYOPHYLLEÆ.

(From *Caryophyllus*, a pink or gilliflower.)

DIANTHUS CARYOPHYLLUS.‖ CLOVE PINK.

SYNONYMA. Caryophyllum rubrum. *Pharm. Lond. & Edinb.* Caryophyllus hortensis simplex flore majore. *Bauh. Pin. p.* 208. Caryophyllus simplex major. *Gerard. Emac. p.* 590. Vide *Park. Parad. p.* 306. *Rati Hist. p.* 986. *Synop. p.* 336. Dianthus Caryophyllus. *Hudson. Flor. Ang. Withering Bot. Arr. p.* 441.

α Caryophyllus hortensis simplex flore majore. *C. Bauh.* *Clove Pink.*

β Caryophyllus maximus ruber & variegatus. *C. Bauh.* *Common Carnation.**

Class Decandria. *Ord.* Digynia. *Lin. Gen. Plant.* 565.

Ess. Gen. Ch. *Cal.* cylindricus, 1-phyllus: basi squamis 4. *Petalæ* 5, unguiculata. *Caps.* cylindrica, 1-locularis.

Sp. Ch. D. floribus solitariis, squamis calycinis subovatis brevissimis, corollis crenatis.

‖ "Ut nomen traxisse ab odoris affinitate qualicunque dubium non est; ita nescio sane quæ et unde sit barbara illa vox tunica. *Bauh. Pin. p. c.*

* Vide Aiton's *Hort. Kew.*

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THE root is perennial, firm, divided, and beset with many fibres: the stems are slender, smooth, branched, upright, jointed, of a glaucous, or sea green, colour, and rise from one to two feet in height: the leaves upon the stem are short, linear, and placed in pairs at the joints; those of the young shoots are numerous, narrow, pointed, smooth, entire, and of the same colour as the stalk: the flowers stand singly at the extremities of the branches, and are of a deep crimson colour: the calyx is tubular, cylindrical, divided at the mouth into five segments, and surrounded at the base with four oval pointed squamæ: the corolla consists of five petals, which at the limb are roundish, patent, scolloped, fringed, and attached to the common receptacle by long narrow claws: the ten filaments are longer than the calyx, tapering, spreading towards the top, and furnished with compressed oblong antheræ: the germen is oval: the styles two, slender, longer than the filaments, and their stigmata curled outwards: the capsule is cylindrical, and contains many small roundish seeds.

This fragrant plant is known to grow wild in several parts of England on old walls and in the crevices of rocks;† but the flowers, which are pharmaceutically employed, are usually produced in gardens, where they become extremely luxuriant, and by the arts of culture those beautiful varieties raised which are so highly esteemed under the name of Carnations. The flowers of the Clove Pink, or as it is more commonly called, Clove July Flower, have a pleasant aromatic smell, somewhat allied to that of clove spice: their taste is bitterish and subastringent. "Rectified spirit, digested on the flowers, receives a much paler tincture than watery liquors, but extracts the whole of their active matter. In distillation or evaporation, spirit elevates much less than water; the spirituous extract retaining a considerable share of the fine smell of the flowers as well as their taste: its colour is purplish like that of the watery extract."[a]

† At Rochester, Deal, Sandown, and other castles, plentifully. See *Ray* and *Hudson.*

[a] Lewis's *Mat. Med. p.* 205.

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Formerly these flowers were supposed to have considerable effect upon the nervous system, and were therefore recommended in head-achs, faintings, palpitations of the heart, convulsions, tremors, &c. and S. Paulli says, that he found them of great use even in malignant fevers.[b] At present, however, they are valued merely for their sensible qualities, and the syrupus caryophylli rubri, which is the only officinal preparation of these flowers, is to be considered in this light: its pleasant flavour and fine colour rendering it an useful vehicle for other medicines.

[b] *Quad. Bot. p.* 242.

SAPONARIA OFFICINALIS. SOAPWORT.

SYNONYMA. Saponaria. *Pharm. Dale.* 230. *Rutty.* 463. *Lewis.* 584. *Edinb. New Dispens.* 277. *Murray. iii.* 505. *Bergius.* 369. *Hall. Hist. Helv. n.* 980. Saponaria major lævis. *Bauh. Pin.* 206. *Gerard. Emac.* 444. Saponaria vulgaris. *Park.* 641. *Ray. Hist.* 999. Lychnis Saponaria dicta. *Ray. Synop.* 339. S. officinalis. *Huds. Ang.* 183. *With. Bot. Arr.* 438. *Ic. Flor. Dan.* 543. *Flor. Lond.*

Decandria Digynia. *Lin. Gen. Plant.* 564.

Gen. Ch. *Cal.* 1-phyllus nudus. *Petala* 5, unguiculata. *Caps.* oblonga, 1-locularis.

Sp. Ch. S. calyc. cylindricis, fol. ovato-lanceolatis.

ROOT perennial, spreading, widely branched, covered with a reddish cuticle. Stalks about a foot in height, erect, firm, round, jointed, sending off opposite branches. Leaves oval, entire, pointed, connate, furnished with three ribs. Flowers numerous, terminal, of a pale flesh or white colour. Calyx cylindrical, rigid,

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oblong, divided at the apex into five pointed teeth. Corolla composed of five petals, which are furnished with long angular claws: the limb is inversely heart-shaped, and at its base supplied with two nectarious teeth, placed in the centre. Filaments ten, tapering, longer than the calyx, furnished with oblong antheræ. Germen oblong, beset with transverse rugæ. Styles two, tapering, white. Stigmata simple. Capsule one-celled, containing numerous black kidney-shaped seeds.

It is a native of England, affecting moist situations, and flowering in July and August.

A double-flowered variety of this plant is not unfrequently met with in gardens.

The root has no peculiar smell; its taste is sweetish, glutinous, and somewhat bitter; on being chewed for some time, it is said to discover a degree of acrimony, which continues to affect the mouth a considerable time. According to Neuman, two ounces of the root yielded eleven drams of watery extract; but Cartheuser, from a like quantity, only obtained six drams, and twenty-four grains. This extract manifested a sweetish taste, followed by an acrid quality. The spirituous extract is less in quantity, but of a more penetrating acrid taste. Decoctions of the root, on being sufficiently agitated, produce a saponaceous froth; a similar soapy quality is observable also in the extract, and still more manifestly in the leaves, insomuch that they have been used by the mendicant monks as a substitute for soap in washing of their clothes; and Bergius, who made several experiments with the Saponaria, declares that it has all the effects of soap itself.[a]

From these peculiar qualities[b] of the Saponaria there can be little doubt of its possessing a considerable share of medical efficacy, which we could wish to find faithfully ascertained.

[a] He observes also, that the Saponaceous quality is not injured by acids, like that of the common soap.

[b] Perhaps we should except the kernels of the fruit of the Sapindus Saponaria, the root of Gypsophila Struthium, and the flowers of the Lychnis chalcedonica.

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The diseases for which the Saponaria is recommended, as syphilis, gout, rheumatism, and jaundice, are not perhaps the complaints in which its use is most availing; for a fancied resemblance of the roots of Saponaria with those of sarsaparilla, seems to have led physicians to think them similar in their effects, and hence they have both been administered with the same intentions, particularly in fixed pains, and venereal affections. Bergius says, "in arthri-"tide, cura mercuriale, &c. nullum aptiorem potum novi."

However, according to several writers, the most inveterate cases of syphilis were cured by a decoction of this plant, without the use of mercury.[c]

Haller informs us, that Boerhaave entertained an high opinion of its efficacy in jaundice, and other visceral obstructions.

[c] Vide Rudius. *De morb. occult. et venenat. L. 5. c. 18. p. 215.* Septalius, *Animadv. et caut. med. p. 275.* Zapata, *Memorab. medico-chir.* Werner. *Diss. de virtute saponar.*

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ORD. XXXIV. CALYCANTHEMÆ.

ORD. XXXV. ASCYROIDEÆ.

(From ασκυρον, the name given by Pliny for *Hypericum*, or St. John's Wort.)

CISTUS CRETICUS. CRETAN CISTUS.

Planta à qua colligitur *Ladanum. Pharm. Lond.*

SYNONYMA. Cistus ladanifera cretica, flore purpureo. *Tournef. Coroll. Inst. rei herb. p.* 19. *Voyage du Levant. t. i. p.* 29. Cistus ladanifera vera. *Park. Theat, p.* 666. Cistus, Ledon Cretense. *Bauh. Pin. p.* 467. Cistus Ledon Matthioli. *Gerard. Emac. p.* 1286. Cistus *(creticus)* arborescens, foliis ovato-lanceolatis, hirsutis, marginibus undulatis, floribus terminalibus. *Miller. Dict. Jacqu. ic. collect. i. p.* 80.

Class Polyandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 673.

Ess. Gen. Ch. Cor. 5-petala. *Cal.* 5-phyllus: foliolis duobus minoribus. *Capsula.*

Sp. Ch. C. arborescens exstipulatus, foliis spatulato-ovatis petiolatis enerviis scabris, calycinis lanceolatis.

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THIS handsome shrub seldom rises to any considerable height; it is covered with a dark coloured bark, and sends off several simple branches: the leaves are oblong, pointed, waved, rough, viscous, veined, and stand in pairs upon short footstalks, which are broad at the base, so as nearly to surround the younger branches: the flowers are produced in succession at the extremities of the branches in June and July; they are large, of a purplish red colour, marked with dark spots at the base of each petal, and stand on short peduncles: the calyx is divided in five large oval pointed persistent segments, of which the two outermost are the smallest: the corolla is composed of five petals, which are large, roundish, spreading, and readily fall off on being touched: the filaments are numerous, very short, slender, and supplied with simple antheræ of an orange colour: the germen is oval, and supports a short style, furnished with a flat circular stigma: the capsule is roundish, and contains many small orbicular seeds.

This shrub, which is a native of Candia and some of the islands of Archipelago, was first cultivated in England by Mr. P. Miller in the year 1731,[a] and is now to be had of several of the London gardeners, though it is not so commonly met with as many other exotic species of this genus. Not only this plant, but most of its congeners, abound with a glutinous liquor, which in summer exudes upon their leaves, and seems to be of the ladanum kind; but it is well known, that the Cistus creticus is the species from which the officinal Ladanum is collected. This is done in Candia by means of an instrument called there *Ergastiri*, made in the form of a rake, to which several leathern thongs are fixed instead of teeth, and with which the leaves of the shrub are lightly brushed backwards and forwards, so that the fluid Ladanum may adhere to the leather, from which it is afterwards scraped off with knives, and formed into regular masses for exportation.[b]

[a] See Aiton's Hort. Kew.

[b] See Belon. *Observations de plusieurs singularités en Grece, Asie, &c. Lib.* i. c. 7. and Tournefort. *Voyage du Levant. t. i. p.* 29. where the Ergastiri is described and figured.

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As this drug is observed to issue most copiously in the hottest weather, the method of gathering above described must be performed when the intensity of the sun's heat renders it a very laborious and troublesome employment.

Three sorts of Ladanum have been described by authors, but only two are now to be met with in the shops. "The best, which is very rare, is in dark coloured masses, of the consistence of a soft plaster, growing still softer on being handled: the other is in long rolls, coiled up, much harder than the preceding, and not so dark. The first has commonly a small and the last a large admixture of fine sand, which in the Labdanum examined by the French Academy amounted to three-fourths of the mass. It is scarcely indeed to be collected pure, independently of designed abuses; the dust blown on the plant by winds from the loose sands among which it grows, being retained by the tenacious juice. The soft kind has an agreeable smell, and a lightly pungent bitterish taste: the hard is much weaker. Rectified spirit of wine dissolves nearly the whole of pure Labdanum into a golden-coloured liquor: on inspissating the filtered solution, the finer parts of the Labdanum rise with the spirit, and the remaining resin proves both weaker and less agreeable than the juice at first. On infusing the Labdanum in water it impregnates the liquor considerably with its smell and taste, and in distillation with water, there comes over a fragrant essential oil."[d]

This resin was formerly much employed internally as a pectoral and astringent in catarrhal affections, dysenteries, and several other diseases; at present however it is wholly confined to external use, and is an ingredient in the stomachic plaster, or emplastrum landani of the London Pharm. It is also sometimes used in the way of fumigation.

By the ancients we are told, that the Λαδανον was collected by combing the beards and thighs of goats who browzed upon the cistus, and to whose hair the drug was found to adhere: another method of gathering it, was by drawing cords over those shrubs which produce it. See Dioscorides, *Mat. Med. Lib. i. p.* 128. and Pliny, *Hist. Nat. Lib. xii. cap. xvii.*

[d] Lewis, *M. M. p.* 368.

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HYPERICUM PERFORATUM. PERFORATED St. JOHN's WORT.

SYNONYMA. Hypericum, *Pharm. Lond.* Hypericum caule terete, alato, ramosissimo, foliis ovatis perforatis. *Hal. Stirp. Helv.* n. 1037. Hypericum vulgare sive perforata, caule rotundo, foliis glabris. *J. Bauhin* III. 382. Hypericum vulgare, *Bauh. Pin.* 279. *Rait Synop.* 342.

Class. Polyadelphia. *Ord.* Polyandria. L. *Gen. Plant.* 902.

Ess. Gen. Ch. Cal. 5-phyllus. *Petala* 5. *Nect.* 0. *Capsula. Aiton's Hortus Kewensis.*

Sp. Ch. H. Floribus trigynis, caule ancipiti, fol. obtusis pellucido-punctatis.

THIS species of the Hypericum generally grows to the height of a foot and a half; the root is perennial, ligneous, divided and subdivided into many small branches, and covered with a straw-coloured bark; the stalks are round, smooth, of a light colour, and towards the top send off many opposite floriferous branches; the leaves are without footstalks, and placed in pairs; they are entire, oval, and beset with a great number of minute transparent vesicles,‖ which have the appearance of small perforations through the dise, and hence the specific name, perforatum.

The flowers are numerous, pentapetalous, terminal, of a deep yellow colour, and grow in a corymbus, or in clusters, upon short peduncles; each petal is of an irregular oval shape and on the under side near the apex, is marked with many blackish dots; the calyx consists of five persistent acute leaves; the stamina are

‖ Folia enim innumeris scatent foraminibus, iisque adeo minutis, ut visum effugiant nisi ipsi folia soli objecta inspiciantur. Matthiol. in Dioscord. p. 668. And these vesicles, or glands, have been found to contain an essential oil of a terebinthinate quality. Geoffroy Mal. Med. Gadd thinks that it approaches nearer to the gum-resin. Lac. Vet. Acad. Handl. 1762. p. 119.

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numerous, and commonly unite at their bases into three portions, or bundles; the antheræ are yellow, and marked with a small black gland;* the styli are three, and the capsule has three cells, which contain many small oblong brownish seeds. It grows commonly in woods and uncultivated grounds, and flowers in July.

Bergius describes the Hypericum quadrangulum instead of the perforatum, and thinks it the better officinal plant. "In pharmacopoliis nostris indiscrete colligunt Hypericum perforatum & quadrangulum; quod perinde quoque esse poterit, cum ambæ species puncta nigrecantia gerant; quadrangulum vero plurima."[a] Hypericum has a bitterish subastringent taste, and a sweetish smell. It was in great repute with the ancients, who prescribed it in hysteria, hypochondriasis and mania: they also imagined that it had the peculiar power of curing demoniacks, and thence obtained the name of *Fuga dæmonum:*[b] it was also recommended internally for wounds, bruises, ulcers, hæmoptysis, mictus cruentus, gravel, dysentery, agues, worms,[c] and outwardly as an anodyne, and as a discutient and detergent. However it is now very rarely used, and its name is omitted in the Materia Medica of the last edition of the Edindurgh Pharmacopœia. In the London Pharmacopœia the flowers only are directed to be used, as containing the greatest proportion of the resinous oily matter in which the medical efficacy of the plant is supposed to reside. The dark puncta of the petals and the capsules, afford this essential oil, which is contained in minute vesicles, or glands, and gives a red colour to rectified spirit, and to expressed oils; the latter has been long known in the shops by the name of Oleum Hyperici.[d]

* Mr. Curtis observes, that a little black gland on the antheræ, distinguishes this species at one view. Flor. Lond.

[a] Bergius Mat. Med. 641.

[b] Scripsere quidam Hypericum adeo odisse dæmones, ut ejus sussitu statim avolent. Matthiol. l. c.

[c] See Haller, l. c. Alston's Mat. Med. vol. 2. p. 150. Bergius, l. c. Murray's Apparat. vol. 3. p. 518.

[d] This colouring matter gives a good die to wool. Gadd. l. c. aliique.

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FRAXINUS ORNUS. FLOWERING ASH.

SYNONYMA. Fraxinus tenuiore & minore folio. *Bauh. Hist.* i. p. 177. Fraxinus humilior sive altera Theophrasti, minore & tenuiore folio. *Bauh. Pin. p.* 416. Fraxinus Ornus, foliolis serratis, floribus corollatis. *Lin. Sp. Plant.* Mannifera arbor. Succus condensatus est Manna. *Pharm. Lond. & Edinb.*

Class Polygamia. *Ord.* Dioecia. *Lin. Gen. Plant.* 1160.

Ess. Gen. Ch. Hermaphrod. Cal. 0, s. 4-partitus. *Cor.* 0, s. 4-petala.
Stam. 2. *Pist.* 1. *Sem.* 1, lanceolatum.
Fem. Pist. 1, lanceolatum.

Sp. Ch. F. foliis ovato-oblongis serratis petiolatis, floribus corollatis. *Hort. Kew.*

THIS tree greatly resembles our common ash: it is lofty, much branched, and covered with a greyish bark. The young shoots produce the leaves, which are pinnated, opposite, and consist of several pair of pinnæ, or small leaves, terminated by an odd one, pointed, serrated, veined, standing upon footstalks, of an oval or oblong shape, and bright green colour. The flowers grow in close thick branched spikes, and open in May and June. In the specimen we have figured, the flowers were all hermaphrodite; the corolla divided into four narrow whitish segments, somewhat longer than the stamina; the two filaments tapering, and crowned with large furrowed erect antheræ; the germen oval, and a little compressed; the style short and cylindrical; the capsule is long, flat, membranous, and contains a single flat pointed seed.

This tree is a native of the southern parts of Europe, particularly

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of Sicily and Calabria.[a] It was first introduced into England about seventy years ago, by Dr. Uvedale;[b] and at present adorns many of the gardens of this country.

The Ornus is not the only species of ash which produces Manna; the *rotundifolia* and *excelsior*, especially in Sicily, also afford this drug, though less abundantly. Many other trees and shrubs have likewise been observed, in certain seasons and situations, to emit a sweet juice, which concretes on exposure to the air, and may be considered as of the manna kind.[c] In Sicily the three species of the Fraxinus, mentioned above, are regularly cultivated for the purpose of procuring Manna, and with this view are planted on the declivity of a hill, with an eastern aspect. After ten years growth, the trees first begin to yield the Manna, but they require

[a] The Ornus is observed by Dr. Cirillo to be very common on the famous mountain Garganus, so that the words of Horace may still apply;

——————— aut Aquilonibus
Querceta Gargani laborant,
Et foliis viduantur orni. L. ii. Od. 9.

[b] Vide Hort Kew.

[c] Dr. Cullen is certainly right in supposing "Manna a part of the sugar so universally present in vegetables, and which exudes on the surface of a great number of them;" the qualities of these exudations he thinks are "very little if at all different." The principal trees known to produce these mannas in different climates and seasons, are the larch, *(vide Murray Ap. Med. i. p. 17.)* the fir, (Iac. V. Engestrom in *Physiogr. Sälskapets Handl. Vol. i. P. 3. p. 144.)* the orange, (De La Hire *Hist. de l'acad. d. sc. de Paris*, 1708.) the walnut, *(Hal. Stirp. Helv. N.* 1624.) the willow, (Mousset in Du Hamel. *Physique des arbres, P. i. p.* 152.) the mulberry, (Micheli in Tragioni Tozzetti *Viaggi, Tom. 6. p.* 424.) oaks, situated between Merdin and Diarbekir (Niebuhr *Beschreib V. Arab. p.* 145. Otter, *Voyage en Turquie et en Perse, Vol. 2. p.* 264.) also oaks in Persia near Khounsar (Otter. l. c.) the al hagi Maurorum, or the hedysarum alhagi of Linnæus; of this manna Dr. Fothergill presented a specimen to the Royal Society, which he considered as the Tereniabin of the Arabians, *(Phil. Trans. Vol.* 43. *p.* 87.) the cistus ladaniferus in some parts of Spain produces a manna, which, in its recent state, has no purgative quality, and is eaten by the shepherds: so that some fermentation seems necessary to give it a cathartic power, *(Vide Dillon's Travels through Spain, p.* 127.)

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to be much older before they afford it in any considerable quantity. Although the Manna exudes spontaneously upon the trees, yet in order to obtain it more copiously, incisions are made through the bark, by means of a sharp crooked instrument; and the season thought to be the most favourable for instituting this process, is a little before the dog-days commence, when the weather is dry and serene. The incisions are first made in the lower part of the trunk, and repeated at the distance of an inch from the former wound, still extending the incisions upwards as far as the branches, and confining them to one side of the tree, the other side being reserved till the year following, when it undergoes the same treatment. On making these incisions, which are of a longitudinal direction, about a span in length, and nearly two inches wide, a thick whitish juice immediately begins to flow, which gradually hardens on the bark, and in the course of eight days acquires the consistence and appearance in which the Manna is imported into Britain, when it is collected in baskets, and afterwards packed in large chests.‡ Sometimes the Manna flows in such abundance from the incisions, that it runs upon the ground, by which it becomes mixed with various impurities, unless prevented, which is commonly attempted, by interposing large concave leaves, stones, chips of wood, &c. The business of collecting Manna usually terminates at the end of September, when the rainy season sets in.[d]

‡ La manne est le principal revenu de ce pays & de quelques autres qui en sont voisins. Il monte dans une bonne annee a vingt-cinq mille Louis d'or. Houel Voyage Pittoresque, tom. 1. p. 53.

[d] This account is taken from Houel *Voyage Pittoresque*, and Sestini *Lettre della Sicilia*, and related by Murray: to which we shall subjoin Dr. Cirillo's account, communicated to the Royal Society. Vide Vol. 60. p. 233.

"The manner, in which the manna is obtained from the Ornus, though very simple, has been yet very much misunderstood by all those who travelled in the kingdom of Naples; and among other things they seem to agree, that the best and purest manna is obtained from the leaves of the tree; but this, I believe, is an opinion taken from the doctrine of the ancients, and received as an incontestible observation, without consulting nature. I never saw such a kind, and all those

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From this account it is evident, that Manna is the *succus proprius* of the tree; any arguments therefore brought to combat the ancient opinion of its being a *mel aërium*, or honey-dew, are wholly unnecessary: that, with which the Israelites were so peculiarly favoured, could only have been produced through miraculous means, and is consequently out of the province of the *natural* historian.—Manna is generally distinguished into different kinds, viz. the Manna in tear, the canulated and flaky Manna, and the common brown or fat Manna. All these varieties seem rather

who are employed in the gathering of the manna, know of none that comes from the leaves. The manna is generally of two kinds; not on account of the intrinsic quality of them being different, but only because they are got in a different manner. In order to have the manna, those who have the management of the woods of the Orni in the months of July and August, when the weather is very dry and warm, make an oblong incision, and take off from the bark of the tree about three inches in length, and two in breadth; they leave the wound open, and by degrees the manna runs out, and is almost suddenly thickened to its proper consistence, and is found adhering to the bark of the tree. This manna, which is collected in baskets, and goes under the name of *manna grassa*, is put in a dry place, because moist and wet places will soon dissolve it again. This first kind is often in large irregular pieces of a brownish colour, and frequently is full of dust and other impurities. But when the people want to have a very fine manna, they apply to the incision of the bark, thin straw, or small bits of shrubs, so that the manna, in coming out, runs upon those bodies, and is collected in a sort of regular tubes, which gives it the name of *manna in cannoli*, that is, manna in tubes: this second kind is more esteemed, and always preferred to the other, because it is free and clear. There is indeed a third kind of manna, which is not commonly to be met with, and which I have seen since I left Calabria: it is very white, like sugar; but as it is rather for curiosity than for use, I shall say no more of it. The two sorts of manna already mentioned undergo no kind of preparation whatsoever, before they are exported; sometimes they are finer, particularly the *manna grassa*, and sometimes very dirty and full of impurities; but the Neapolitans have no interest in adulterating the manna, because they always have a great deal more than what they generally export; and if manna is kept in the magazines, it receives often very great hurt by the Southern winds, so common in our part of the world. The changes of the weather produce a sudden alteration in the time that the manna is to be gathered; and, for this reason, when the summer is rainy, the manna is always very scarce and very bad."

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to depend upon their respective purity, and the circumstances in which they are obtained from the plant, than upon any essential difference of the drug: when the juice transudes from the tree very slowly, the Manna is always more dry, transparent, and pure, and consequently of more estimation; but when it flows very copiously it concretes into a coarse brown unctuous mass; hence we have a reason, why, by applying straws and other substances to receive the flowing juice, the Manna becomes much improved: Houel, who tasted the manna when flowing from the tree, found it much bitterer than in its concrete state; this bitterness he attributes to the aqueous part, which is then very abundant, of course the manna is meliorated by all the circumstances which promote evaporation. According to Lewis, "the best Manna is in oblong pieces, or flakes, moderately dry, friable, very light, of a whitish or pale yellow colour, and in some degree transparent: the inferior kinds are moist, unctuous, and brown. Manna liquifies in moist air, dissolves readily in water, and, by the assistance of heat, in rectified spirit. On inspissating the watery solution, the Manna is recovered of a much darker colour than at first. From the saturated spirituous solution, great part of it separates as the liquor cools, concreting into a flaky mass, of a snowy whiteness, and a very grateful sweetness."

Manna is well known as a gentle purgative, so mild in its operation, that it may be given with safety to children and pregnant women; in some constitutions however it produces troublesome flatulencies, and therefore requires the addition of a suitable aromatic, especially when given to an adult, where a large dose is necessary; it is therefore usually acuated by some other cathartic of a more powerful kind. The efficacy of Manna is said, by Vallisnieri, to be much promoted by cassia fistularis, a mixture of the two purging more than both of them separately; it is therefore very properly an ingredient in the electuarium e cassia.

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ORD. XXXVI. COADUNATÆ.

ORD. XXXVII. DUMOSÆ.

(From *Dumus*, a Bush.)

Bushy shrubby plants, thickly beset with irregular branches.

RHAMNUS CATHARTICUS. PURGING BUCKTHORN.

SYNONYMA. Spina cervina. *Pharm. Lond. & Edinb.* Rhamnus catharticus. *Bauh. Pin. p.* 478. *Raii Hist. p.* 1625. *Synop. p.* 466. *Hudson. Flor. Ang. p.* 98. *Withering. Bot. Arrang. p.* 239. *Flor. Dan.* 850. Rhamnus solutivus. *Gerard. Emac. p.* 1337. Rhamnus solutivus sive Spina infectoria vulgaris. *Park. Theat. p.* 243. Rhamnus foliis spinosis, ovato-lanceolatis, serratis. *Hal. Stirp. Helv. n.* 824.

Class Pentandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 265.

Ess. Gen. Ch. *Cal.* tubulosus: squamis stamina munientibus. *Cor.* nulla. *Bacca.*

Sp. Ch. R. spinis terminalibus, floribus quadrifidis dioicis, foliis ovatis, caule erecto.

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THIS shrub is covered with dark brownish bark, divided into many branches, beset with strong spines, and usually rises seven or eight feet in height: the leaves are nearly elliptical, serrated, veined, and stand on shortish footstalks: the flowers are commonly male and female upon different plants, small, greenish, and placed in clusters upon simple peduncles: the calyx supplies the place of a corolla, it is funnel-shaped, of a pale green colour, and divided at the extremity into four spreading pointed segments: the filaments are usually four, arising from the base of a small convex scale, very short, and furnished with round antheræ; the germen is round, and supports a slender style, terminated by a trifid stigma: the fruit is a round black berry, containing four seeds, which are compressed on one side, and protuberant on the other. It is a native of Britain, usually growing in woods and hedges near brooks, flowering in May and June, and ripening its seeds about the end of September.

The fruit or berries of this Shrub, which have been long received into the Materia Medica, are about the size of a small pea, and when ripe of a shining black colour: they contain a pulpy deep green juice,[a] which has a faint unpleasant smell, and a bitterish, acrid, nauseous taste: they operate briskly by stool, and hence the plant derives the trivial name *catharticus:*[b] their purgative effects are constantly accompanied with considerable thirst, and dryness of the mouth and throat, and frequently with severe griping of the bowels, especially unless some diluting liquor be plentifully drunk immediately after taking them.

" The dose is said to be about twenty of the fresh berries in substance; twice or thrice that number in decoction: a dram or a dram and a half of the dried berries; an ounce of the expressed

[a] This juice is called by the French Verd de Vessie, or Sap Green, and is used for painting or staining paper: that of the unripe berries is yellow, and when the berries are gathered late in the autumn, the juice is purple. It is also used as a dye. See *Lin. Flor. Suec. p.* 72.

[b] It is reported that the flesh of those birds which feed upon these berries is purgative. Homberg, *Mem. de l'Acad. des Sc. de Paris,* 1712. *p.* 9.

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juice; or half an ounce of the rob or extract, obtained by inspissating the juice."[c] The juice made into a syrup is the officinal preparation, and in this state it has been generally preferred by physicians, who found that in doses of one ounce to two it proved a very powerful purgative, and was therefore much employed as a hydragogue.[d] Few patients however are able to bear a frequent repetition of this medicine; and even Sydenham, who was partial to the purgative treatment of hydropical diseases, found that other cathartics more effectually answered this purpose: at present it is rarely prescribed except in conjunction with other medicines of this class.

The inner bark, like that of Elder, is said to be a strong cathartic, and to excite vomiting.[e]

[c] Lewis, *M. M. p.* 612.

[d] Riverius, *Prax. lib. ii. cap.* 6. *p.* 44.—Boerhaave, *De virib. med. p.* 308.—Chomel, *Usuell. tom. i. p.* 19.—Sydenham, *Opera, p.* 488.

[e] Allioni, *Fl. Pedemont, t. ii. p.* 130.

SAMBUCUS NIGRA. COMMON BLACK ELDER.

SYNONYMA. Sambucus. *Pharm. Lond. & Edinb.* Sambucus fructu in umbella nigro. *Bauh. Pin. p.* 456. Sambucus vulgaris. *Park. Theat. p.* 407. *J. Bauh. vol. i. p.* 544. *Raii Hist. p.* 1609. *Synop. p.* 461. *Gerard. Emac. p.* 1422. *Hudson Flor. Ang. p.* 130. *Flor. Dan.* 545. *Withering. Bot. Arrang. p.* 320. *Duhamel, t.* 65. Sambucus arborea, floribus umbellatis. *Hal. Stirp. Helv. n.* 670.

Varietates sunt,

β. Sambucus fructu in umbella viridi. *C. Bauh.*

γ Sambucus laciniato folio. *C. Bauh.*

Class Pentandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 372.

Ess. Gen. Ch. Cal. 5-partitus. *Cor.* 5-fida. *Bacca* 3-sperma.

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Sp. Ch. S. cymis quinquepartitis, foliis pinnatis, caule arboreo.

THE root is woody, from which issues a shrubby stem often to the height of twelve or sixteen feet: it is much branched towards the top, and covered with a rough whitish bark: the wood is hard, tough, and contains in the centre a large proportion of medullary matter, or pith: the leaves are pinnated, consisting of two or three pair of pinnæ or leafits, with an odd one at the end; they are oval, veined, smooth, deeply serrated, and of a deep green colour: the flowers are small, white, and produced in large flat umbels or clusters: the calyx is permanent, placed above the germen, and divided into five segments: the corolla is monopetalous, wheel-shaped, somewhat convex, and divided into five obtuse segments: the filaments are tapering, spreading, equal in length to the corolla, and crowned with roundish antheræ: the germen is oval, and furnished with a prominent gland, which supplies the place of the styles, and supports three blunt stigmata: the fruit is a round succulent berry, of a blackish purple colour, and contains three seeds, which are flat on one side, and angular on the other. It is a native of Britain, in moist hedges and woods, and flowers in May and June.

This species is the Ἀκτὴ[a] of the Greek writers, and has been long very generally employed for medical purposes. The whole plant has an unpleasant narcotic smell, and some authors have reported its exhalations to be so noxious as to render it unsafe to sleep under its shade.[b] The parts of the Sambucus, which are proposed

[a] Sambucus, Ἀκτὴ Græcis, a Sambuca musico instrumento, quod alii pectida, alii magadin vocant, dicta putatur. Alii ab autore cui nomen Sambyx denominatum malunt. Nobis vox incertæ originis esse videtur. *Raii Hist. p.* 1609.

[b] The Berries are said to be poisonous to poultry. *(Barthol. Hist. anat. rarior. Cent. iv. p.* 248.) And the flowers to peacocks. *Linn. Flor. Suec. p.* 79. If turneps, cabbages, fruit-trees, or corn, (which are subject to blight from a variety of insects) are whipped with the green leaves and branches of Elder, the insects will not attack them. *Withering. l. c.* See *Phil. Trans. vol. lxii. p.* 348.

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for medicinal use in the Pharmacopœias,[c] are the inner bark, the flowers, and the berries. The first has scarcely any smell, and very little taste: on first chewing, it impresses a degree of sweetishness, which is followed by a very slight, but durable acrimony, in which its powers seem to reside, and which it imparts both to watery and spirituous menstrua. It is strongly cathartic, and on this account was much used by Sydenham[d] and Boerhaave,[e] who recommend it as an effectual hydragogue; the former directs three handfuls of it to be boiled in a quart of milk and water, till only a pint remains, of which one half is to be taken night and morning, and repeated for several days: it usually operates both upwards and downwards, and upon the evacuations it produces its utility depends. Boerhaave gave its expressed juice in doses from a dram to half an ounce. In smaller doses it is said to be an useful aperient and deobstruent in various chronical disorders.

"The flowers have an agreeable flavour, which they give over in distillation with water, and impart by infusion both to water and rectified spirit: on distilling a large quantity of them with water, a small portion of a butyraceous essential oil separates. Infusions made from the fresh flowers are gently laxative and aperient: when dry they are said to promote chiefly the cuticular excretion, and to be particularly serviceable in erysipelatous and eruptive disorders." Externally they are used in fomentations, &c. and in the London Pharmacopœia directed in the form of an ointment. "The berries, in taste, are somewhat sweetish, and not unpleasant; on expression, they yield a fine purple juice, which proves an useful aperient and resolvent in recent colds and sundry chronical diseases, gently loosening the belly, and promoting urine and perspiration."[f] The officinal preparation of these berries is the succus baccæ sambuci spissatus. (Pharm. Lond.)

[c] The leaves are purgative like the bark, but more nauseous.

[d] *Oper. p.* 496. [e] *Hist. Plant. P. I. p.* 207.

[f] *Lewis M. M. p.* 576.

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SAMBUCUS EBULUS. DWARF ELDER.

SYNONYMA. Ebulus. *Pharm. Geoff. tii.* 415. *Dale.* 319. *Alston. i.* 485. *Lewis.* 376. *Ed. New Dis.* 184. *Cullen. ii.* 534. *Bergius.* 240. *Murray. tv.* 22. Sambucus humilis seu Ebulus. *Bauh. Pin.* 456. Ebulus sive Sambucus humilis. *Gerard Emac.* 1426. *Park.* 209. *Ray. Syn.* 461. *Hall. Stirp. Helv. n.* 671. S. Ebulus. *Huds. Ang.* 130. *Withering. Bot. Arr.* 319. *Flor. Lond.* 213.

Pentandria Trigynia. *Lin. Gen. Plant.* 372.

Gen. Ch. *Cal.* 5-partitus. *Cor.* 5-fida. *Bacca* 3-sperma.

Sp. Ch. S. cymis tripartitis, stipulis foliaceis, caule herbaceo.

ROOT long, creeping. Stalk six feet in height, herbaceous, erect, roundish, smooth, channelled, swelled at the joints, sending off opposite branches. Leaves opposite, pinnated, composed of four or five pair, with an odd one at the extremity: pinnæ somewhat lanceolate, unequal at the base, serrated, veiny, downy underneath. Stipulæ quadruple, nearly heart-shaped. Flowers in a terminal corymbus, divided into three branches, composed of numerous cymæ. Calyx divided into five teeth, which are short, erect, pointed. Corolla monopetalous, wheel-shaped, divided into five segments, which are ovate, pointed, hollow, reflexed. Filaments five, thick, white, of the length of the corolla. Antheræ large, double, changing from a reddish to a blackish colour. Germen below the corolla, ovate, somewhat angular, smooth. Style none. Stigmata three, glutinous, reniform. Fruit a roundish black single-celled berry, containing three irregularly-shaped seeds.

It is not unfrequent in hedges, flowering in June and July, but seldom bringing its fruit to maturity.

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Every part of the plant has a faint disagreeable smell, resembling that of common elder, but stronger and more ungrateful; and when taken into the stomach manifests a greater share of active power.

The *root* of the Ebulus, which is white, fleshy, and of a nauseous bitter taste, was formerly very generally employed in dropsies. A decoction of two drams of it, or a small quantity of its expressed juice, promotes both the alvine and urinary discharges; and if the decoction is prepared from the bark of the fresh root, its activity is so much increased, that it commonly proves both emetic and cathartic.

The inner bark of the stalk, when recent, is equally powerful in evacuating the primæ viæ; and its effects, as a diuretic, on the testimony of Dr. Brocklesby,[a] were found to be very considerable; but its operation is so violent and precarious, that it is now very rarely employed.

The berries, in their recent state, according to Scopoli,[b] prove a gentle cathartic, though Haller[c] says that he never experienced this effect from their use.

The seeds are said to be diuretic, and to have been given with advantage in dropsical complaints: they also afford an oil, which Haller applied with success in painful affections of the joints.

The leaves,[d] boiled in wine, and formed into a cataplasm, have been recommended in France as a discutient application to contusions and tumours.

[a] See *Oecon. & Med. Observations. p.* 277.

[b] *Flor. Carn.*

[c] *Hist. Stirp. Helv. n.* 671.

[d] The odour of the green leaves drives away mice from granaries; and the Silesians strew these leaves where their pigs lie, under a persuasion that they prevent some of the diseases to which these animals are liable.

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RHUS CORIARIA. ELM-LEAVED SUMACH.

SYNONYMA. Sumach. *Pharm. Dale.* 314. *Alston. ii.* 370. *Lewis.* 630. *Ed. New Dispens.* 292. *Bergius.* 237. *Murray. iv.* 25. Rhus folio ulmi. *Bauh. Pin.* 414. Rhus Coriaria. *Ger. Emac.* 1474. Sumach sive Rhus obsoniorum & coriariorum. *Park. Theat.* 1450. Per *Græcis.* *Ic. Du Hamel, Traité des arbres. vol. i. p.* 218. *tab.* 52.

Pentandria Trigynia. *Lin. Gen. Plant.* 369.

Gen. Ch. *Cal.* 5-partitus. *Petala* 5. *Bacca* 1-sperma.

Sp. Ch. R. foliis pinnatis obtusiusculè serratis ovalibus subtus villosis.

A SMALL tree rising to the height of ten feet, sending off many divaricating branches, and covered with a brown hairy bark. Leaves pinnated, alternate, consisting of several pair of pinnæ, which are ovato-lance-shaped, obtusely serrated, smooth above, hairy beneath, on short footstalks. Common footstalk somewhat winged, and terminated by a single leafit. Flowers often dioicous, numerous, small, white, placed in large branched spikes. Calyx five toothed, erect, persistent, placed below the germen. Corolla of five petals, which are ovate, white, mostly erect. Filaments five, very short. Antheræ small. Germen roundish, about the length of the corolla. Style scarcely visible. Stigmata three, somewhat cordate. Fruit a roundish one-celled red berry, containing a solitary round hard seed.

This species of Sumach is a native of the South of Europe, and appears from the *Catalogus horti Oxoniensis* to have been cultivated in that garden previous to the year 1648, though it is still a scarce plant in this country.

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The genus, to which this species belongs, comprehends several species which are known to be extremely poisonous, especially the Rhus Toxicodendron, radicans, and Vernix; but the Coriaria is perfectly innocent, and its berries are in some places used for culinary purposes.

Its medicinal qualities are wholly to be ascribed to its stypticity or astringency; a property which it possesses in a sufficient degree to render it useful in dyeing, and also in tanning of leather, for which it was used in the time of Dioscorides.

Both the leaves and berries have been employed in medicine, but the former are more astringent and tonic, and have been long in common use in various complaints indicating this class of remedies.

The berries, which are red and of a roundish compressed figure, contain a pulpy matter, in which is lodged a brown hard oval seed, manifesting a considerable degree of astringency. The pulp, even when dry, is gratefully acid, and has been discovered to contain an essential salt[a] similar to that of wood-sorrel, or perhaps more nearly allied to crystals of tartar.

An infusion of the dry fruit is not rendered black by a solution of iron; hence it appears to be destitute of astringency: but its acidity is extremely grateful, which has caused the tree to be called by the French le Vinaigrier. Therefore, like many other acid summer fruits, these berries[b] may be advantageously taken to allay febrile heat, and to correct bilious putrescency.

Lately the Rhus Toxicodendron and radicans have been recommended in paralytic affections; the latter by Mons. Fresnoi, and the former by Dr. Alderson,[c] of Hull; but the cases in which these virulent plants were employed are but few and indecisive.

[a] See Trommsdorff in *Act. Mogunt.* 1778-9. *Comment. Chem. p.* 25.

[b] In eastern countries they are commonly used as a pickle.

[c] See *an Essay on the Rhus Toxicodendron.*

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AMYRIS GILEADENSIS. BALSAM of GILEAD AMYRIS.

Balsamum Gileadense. *Pharm. Edinb.* Conf. *Bruce's Travels to discover the Source of the Nile. Appendix. p.* 16. *Belon. Observations de plusieures singularitéz trouvées en Grece-Arabie, &c. Lib.* 2. *cap.* 39. *p.* 110. *Alpinus, in Lib. de plantis Ægypti, p.* 48. *fig. p.* 60. Forskal Flor. Ægyptiaco-Arab. *p.* 79. *Bauh. Pin. p.* 400. *Gerard. Emac. p.* 1528. *Park. Theat. p.* 1528.

Class Octandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 473.

Ess. Gen. Ch. *Cal.* 4-dentatus. *Petala* 4. oblonga. *Stigma* tetragonum. *Bacca* drupacea.

Sp. Ch. A. foliis ternatis integerrimis, pedunculis unifloris lateralibus.

ACCORDING to Mr. Bruce the Balessan or Balm-tree grows to the height of fourteen feet: its branches are numerous, spreading, crooked: the wood is white, soft, and covered with a smooth ash-coloured bark: the leaves are small, few, commonly consisting of one pair of pinnæ, with an odd one at the top: the pinnæ are sessile, inversely ovate, entire, veined, and of a bright green colour: the flowers are scattered upon the branches, and are of a white colour: the calyx is permanent, and divided at the brim into four small pointed teeth: the petals are four, oblong, concave, patent, white: the filaments are eight, tapering, erect, and terminated by oblong antheræ: the germen is egg-shaped, and placed above the insertion of the corolla: the style is thick, of the length of the filaments, and terminated by a quadrangular stigma: the fruit is of the drupaceous kind, roundish, opening by four valves, and containing a smooth nut.

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Mr. Bruce informs us, that Balm-tree is a native of Abyssinia, growing among the myrrh-trees behind Azab, all along the coast, to the Straits of Babelmandeb; and that it was early transplanted into the South of Arabia, and into Judea 1000 years before the Queen of Saba, who, according to Josephus, gave this tree, among other presents, to king Solomon.

Theophrastus, Dioscorides, Pliny, and even the Arabian physicians, supposed this Balsam to be the produce of Judea only; and hence it seems to have received the name of Balsamum Judaicum, or Balm of Gilead. Forskal, who first discovered this tree to belong to the genus Amyris, transmitted a branch of it to Linnæus, which on being broken smelled strongly of the Balsam; the leaves were all ternate, like those of the annexed figure, which corresponds exactly with the specimen in the possession of Sir Joseph Banks.

Besides this tree, which was found at Gidda, another was observed at Yemen, differing only from that found at Gidda, in having pinnated leaves. The former was first described by Linnæus in his Mantissa, under the name A. Gileadensis, the latter under that of A. Opobalsamum; the name which he has adopted in his Materia Medica.

Whether these two species, the difference of which is supposed to consist merely in the number of their foliola, are really the same or not, we cannot undertake to determine; but judging from analogy we should decide in the affirmative; for even in the figure of this tree, given by Alpinus, to which Linnæus refers the A. Opobalsamum, the number of the leafits varies much, being five, seven, and sometimes three; and in that published by Mr. Bruce, the larger leaves consist of five leafits, but the smaller only of three.

The description of the Balsam of Mecca-tree, lately given by Gleditsch, differs from that of all other writers: he removes it from the genus Amyris, as not having the characters of that family;[a] we shall therefore leave this author without making any further remark.

[a] See *Schrift. d. Berlin. Gesellschaft Naturforsch. Freunde. vol.* 3. *p.* 103.

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This Balsam, which has been received in the different Pharmacopœias under the names of Balsamum de Mecca, Opobalsamum, Balsamum verum, and Balsamum Gileadense, issues spontaneously from the bark of the tree; but is more commonly obtained by incisions: the Xylobalsamum, as the name imports, is prepared from the wood, and the Carpobalsamum from the fruit. The Balsam now imported into Europe is reported to be principally collected between Mecca and Medina. The Bark, Mr. Bruce says, "is cut by an axe,[b] when the juice is in its strongest circulation "in July, August, and the beginning of September. It is then "received into a small earthen bottle, and every day's produce "gathered and poured into a larger, which is kept closely corked. "The Opobalsamum, or juice flowing from the Balsam-tree, at "first when it is received into the bottle or vase from the wound "from whence it issues, is of a light yellow colour, apparently "turbid, in which there is a whitish cast, which I apprehend are "the globules of air that pervade the whole of it in its first state "of fermentation; it then appears very light upon shaking. As "it settles and cools, it turns clear, and loses that milkiness which "it first had when flowing from the tree into the bottle. It then "has the colour of honey, and appears more fixed and heavy than "at first. After being kept for years, it grows of a much deeper "yellow, and of the colour of gold. I have some of it which "I got from the Cadi of Medina in 1768; it is now still deeper "in colour, full as much so as the yellowest honey. It is perfectly "fluid, and has lost very little either of its taste, smell, or weight. "The smell at first is violent, and strongly pungent, giving a "sensation to the brain like that of volatile salts when rashly "drawn up by an incautious person. This lasts in proportion "to its freshness, for, being neglected and the bottle uncorked, "it quickly loses this quality, as it probably will at last by age, "whatever care is taken of it."[c]

[b] Tacitus says this tree was so averse to iron, that it trembled upon a knife being laid near it: and some pretend that the incisions should be made with ivory, shells, glass, or stone.

[c] *L. c.*

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The Balsam which one tree yields is very small,* and the collecting of it is tedious and troublesome: hence it is so very scarce that the genuine Balsam is rarely if ever exported in a commercial way.[d] The best Balsam, according to Alpinus, is at first turbid and white, of a very strong pungent smell, like that of turpentine, but much sweeter and more fragrant, and of a bitter, acrid, astringent taste: on being kept for some time, it becomes thin, limpid, light, of a greenish hue, and then of a gold yellow, after which it grows thick like turpentine, and loses much of its fragrance. Some compare the smell of this Balsam to that of citrons; others to that of a mixture of rosemary and sage flowers. The chief mark of its goodness is said to be founded on this, that when dropped on water it spreads itself all over the surface, forming a thin pellicle, tough enough to be taken up upon the point of a pin, and at the same time impregnating the water with its smell and flavour.[e]

It appears on scripture authority, that the great value and use of this drug remounts to very early ages,[f] as it seems coeval with the India trade for pepper. To enumerate all the virtues and medicinal uses still attributed to it by eastern nations, would be outraging the bounds of all rational credibility: but they who are desirous of this information may be gratified by consulting Alpinus. European physicians consider it to be not essentially different from other resinous fluids, or turpentines, especially as

* Three or four drops a day are said to be the usual quantity obtained from one branch; nor does the most fertile tree ever yield more than sixty in that time. See *Gerlachs Tagebuch s. Reise nach Constantinopel. p.* 227.

[d] Lady Mary Wortley Montague says, that even at Constantinople it was not without difficulty procured. See *Letters, vol. ii. p.* 116.

[e] This test of the goodness of the Balsam, which is mentioned by Alston, is not to be depended upon, as several resinous fluids, and even oil of juniper, produce the same phœnomena.

[f] Balm and Myrrh were carried by the Ishmaelites to Egypt. See *Gen. c. xxxvii. v.* 25.

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we find it imported here: it is therefore generally believed, that the Canada and Copaiva balsams will answer every purpose for which it can be employed. In Turkey it is not only in high esteem as a medicine, but also as an odoriferous unguent and cosmetic: its effects with respect to its last mentioned use seem to depend merely on its stimulating the skin; for it is observed by Lady Mary Wortley Montague, that the day after she had used the Balsam, her face became red and swollen; an inconvenience which she suffered for three days.[s]

[s] See. *l. c.*

The high opinion entertained of its virtues we learn from the following verse in Jeremiah: "Is there no balm in Gilead? is there no physician there? why then is not the health of the daughter of my people recovered?" ch. viii. ver. 22.

TOLUIFERA BALSAMUM. BALSAM OF TOLU TREE.

Balsamum Tolutanum. *Pharm. Lond. & Edinb.*

SYNONYMA. Balsamum Tolutanum, foliis ceratiæ similibus. *Bauh. Pin. p.* 401. Balsamum de Tolu. *Monard. Clus. Exot. p.* 304. *Park. Theat. p.* 1570. *J. Bauh. Hist. vol. i. p.* 296. *Raii. Hist. p.* 1758.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 524.

Ess. Gen. Ch. Cal. 5-dentatus, campanulatus. *Petala* 5, infimo maximo, obcordato. *Stylus* nullus.

THIS tree grows to a considerable height; it sends off numerous large branches, and is covered with rough thick greyish bark: the leaves are elliptical or ovate, entire, pointed, alternate, of a light green colour, and stand upon short strong footstalks: the flowers

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are numerous, and produced in lateral racemi: the calyx is bell-shaped, divided at the brim into five teeth, which are nearly equal, but one is projected to a greater distance than the others: the petals are inserted into the receptacle, and are five in number, of which four are equal, linear, and a little longer than the calyx; the fifth is much the largest, inversely heart-shaped, and its *unguis* is of the length of the calyx: the ten filaments are very short, and furnished with long antheræ: the germen is oblong: there is no style: the stigma is pointed: the fruit is a round berry.

Through the favour of Sir Joseph Banks we have been enabled to present our readers with the annexed figure of this tree, which has hitherto been little known, and but imperfectly described.[a] It grows in Spanish America, in the Province of Tolu, behind Carthagena, whence we are supplied with the Balsam, which is brought to us in little gourd-shells. This Balsam is obtained by making incisions in the bark of the tree, and is collected into spoons, which are made of black wax, from which it is poured into proper vessels.*

This Balsam is of a reddish yellow colour, transparent, in consistence thick and tenacious: by age it grows so hard and brittle, that it may be rubbed into a powder between the finger and thumb.[b] Its smell is extremely fragrant, somewhat resembling that of lemons; its taste is warm and sweetish, and on being chewed it adheres to the teeth. Thrown into the fire it immediately liquifies, takes flame, and disperses its agreeable odour. Though it does not dissolve in water, yet if boiled in it for two or three hours, in a covered vessel, the water receives its odoriferous smell: water also suffers a similar impregnation from the Balsam by distillation.

[a] We regret that the flowers were not sufficiently advanced for us to represent the interior parts of inflorescence. A piece of the bark, which tasted strongly of the Balsam, accompanies the specimen in Sir Joseph's Herbarium.

* *Monard. l. c.*

[b] See Murray, *App. Med vol. vi. p.* 118.

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With the assistance of mucilage it unites with water, so as to form a milky solution. It dissolves entirely in spirit of wine, and easily mixes with distilled oils, but less easily with those of the expressed kind. Distilled without addition, it produces not only an empyreumatic oil, of a pale dark colour, but sometimes a small portion of a saline matter, similar to that of the flowers of benzoine.

This Balsam possesses the same general virtues with the former, and that of Peru; it is however less heating and stimulating, and may therefore be employed with more safety. It has been chiefly used as a pectoral, and is said to be an efficacious corroborant in gleets and seminal weaknesses. It is directed by the Pharmacopœias in the syrupus tolutanus, tinctura tolutana, & syrupus balsamicus.

COPAIFERA OFFICINALIS. BALSAM of COPAIVA TREE.

Balsamum Copaiva. *Pharm. Lond.* Balsamum Copaibæ. *Pharm. Ed.*

SYNONYMA. Coapoiba. *Marcgr. bras.* 130. Copaiba. *Pis. Hist. Nat. et Med. p.* 118. Arbre de Copau. *Labat, Nouv. voyage aux Isles de L'Amerique, tom. ii. p.* 365. Le Copahu. *Barrere Hist. Nat. de la France equinoxiale. p.* 40. Arbor baccifera Brasilien. &c. *Raii Hist. p.* 1759. Copaifera officinalis. *Jacquin Select. Stirp. Americ. p.* 133. *tab.* 86. *ed. pict. p.* 67. *tab.* 128.

Class Decandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 542.

Ess. Gen. Ch. Cal. 0. *Petala* 4. *Legum.* ovatum. *Sem.* 1, arillo baccato.

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THIS tree grows to a considerable height: it is covered with rough brown bark, and divides into numerous branches: the leaves are pinnated, large, consisting of four pair of pinnæ, which are alternate, except the undermost, which is nearly opposite; they are ovate, pointed, somewhat narrowed on one side, and placed upon short footstalks: the flowers are white, and produced in terminal branched spikes: there is no calyx: the petals are four, oblong, acute, concave, spreading: the filaments are ten, slender, incurved, somewhat longer than the corolla, and crowned with antheræ, which are oblong, and incumbent: the germen is roundish, compressed, and stands upon a short pedicle: the style is filiform, incurved, about the length of the filaments, and furnished with an obtuse stigma: the fruit is an oval pod, of two valves, pointed with part of the remaining style: it contains one egg-shaped seed, involved in a berried arillus.

This tall and elegant tree is a native of South America, particularly Brazil, and some of the neighbouring islands; and it is said to have been discovered growing in Terra Firma in large woods with those trees which afford several of our officinal Balsams, especially that of Tolu and Peru. The resinous juice, called Balsam of Copaiba, is obtained from this tree by making incisions near the base of its trunk, extending not only through the bark but into the substance of the wood, when the balsam immediately issues, and at the proper season flows in such abundance, that sometimes in three hours twelve pounds have been procured. The older trees afford the best balsam, and yield it two or three times in the same year. The Balsam supplied by the young and vigorous trees, which abound with the most juice, is crude and watery, and is therefore accounted less valuable. While flowing from the tree this balsam is a colourless fluid; in time however it acquires a yellowish tinge, and the consistence of oil; but though by age it has been found thick like honey, yet it never became solid like other resinous fluids.

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Genuine * Balsam of Copaiba has a moderately agreeable smell, and a bitterish biting taste, of considerable duration in the mouth: it dissolves entirely in rectified spirit, especially if the menstruum be previously alkalized; when the solution has a very fragrant smell. Distilled with water it yields nearly half its weight of a limpid essential oil; and in a strong heat, without addition, a blue oil.

This, like most other balsams, is nearly allied to the turpentines. It was formerly thought to be an efficacious remedy in various disorders, as pulmonary consumptions, coughs, scorbutic diseases, dropsies, dysenteries, nephritic complaints, internal ulcers, fluor albus, gleets, &c. but though some proofs of its good effects in certain states of many of these diseases may be adduced,[a] yet as it irritates and heats the system to a considerable degree, few cases occur in which this medicine can safely be given, especially in large doses.[b] It determines powerfully to the kidneys, and impregnates the urine with its qualities, and has therefore been supposed peculiarly suited to diseases of the urinary passages, but by stimulating these organs it is apt to produce very mischievous consequences, its use is therefore now principally confined to gleets and fluor albus.

If this medicine can be advantageously administered in pulmonary affections, it must be in the absence of fever, and where the

* "We sometimes find in shops, under the name of Copaiba, a thick, whitish, almost opake Balsam, with a quantity of turbid watery liquor at the bottom. This sort, probably, is either adulterated by the mixture of other substances, or has been extracted, by boiling in water, from the bark or branches of the tree." *Lewis, M. M. p.* 132.

[a] See Fuller, *Pharm. extemp. p.* 275. F. Hoffman, *Obs. Phys. chym. p.* 24. Lentin, *Beobacht. einig. Krankh.* 1774. *p.* 58. Mutis relates, that a woman in Santa Fé, who had been many years affected with a dropsy, in forty days was cured by taking balsam of copaiba, the dose of which she increased to a spoonful night and morning. *Nouvelles de la Republique des lettres et des arts*, 1786. *n.* 33. *p.* 374.

[b] Hoppe has fully set forth its dangerous effects. See D. Fred Wilh. Hoppe, apud Valentini Indiam literatam. p. 624.

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excretion from the lungs is unattended with inflammatory congestion.[c] It may be most conveniently taken in the form of an emulsion, into which it may be brought by triturating it with almonds, or rather with a thick mucilage of gum arabic, till they are well incorporated, and then gradually adding a proper quantity of water. The dose of the Balsam should rarely exceed twenty or thirty drops.

[c] Vide Simmons *On the Treatment of Consumptions, p. 36. sq.*

Dr. Cullen says, "Whether a certain effect of balsam of copaiba is to be imputed to its laxative quality, I cannot determine, but must observe, that I have learned from an empirical practitioner, that it gives relief in hæmorrhoidal affections; and I have frequently employed it with success, viz. given from twenty to thirty drops twice a day." *Mat. Med. vol. ii. p.* 190.

The medicinal plants of this order not figured in Medical Botany, are,

Systematic Names.	Officinal.	English.
Rhamnus Frangula	Frangula	Berry-bearing Alder.
Rhamnus Zizyphus	Jujuba	Shining-leav'd Rhamnus
Ilex aquifolium	Aquifolium	Common Holly.

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ORD. XXXVIII. TRIHILATÆ.

From *Tres*, three, and *Hilum*, an external mark or scar on each of the three seeds where they are attached to the fruit.

ÆSCULUS HIPPOCASTANUM. COMMON HORSE CHESNUT.

SYNONYMA. Hippocantanum. *Pharm. Edinb.* Castanea folio multifido. *Bauh. Pin. p.* 419. Castanea equina. *Ger. Emac. p.* 1442. *Park. Theat. p.* 1401. *Raii. Hist. p.* 1683. Hippocastanum. *Hall. Stirp. Helv. n.* 1029. Æ. Hip. *Miller Illust. Hunt. Evel. vol. i. p.* 359.

Class Heptandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 462.

Ess. Gen. Ch. Cal. 1-phyllus, 5-dentatus, ventricosus. *Cor.* 5-petala, inæqualiter colorata, calyci inserta. *Caps.* 3-locularis.

Sp. Ch. Æ. foliolis septenis.

THIS tree frequently grows to a great height,[a] and from the upper part of the trunk usually sends off numerous spreading branches, covered with rough brown bark: the leaves are digitated, composed commonly of seven large lobes, which are long, obversely oval, serrated, ribbed, of a pale green colour, and proceed from a

[a] A Horse Chesnut-tree, above 80 years old, and 50 feet high, still continued in a healthy and growing state. *Samml. d. Berner landwirthschaftl. Gesellsch. vol. ii. p.* 943.

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common centre attached to a long footstalk: the flowers terminate the branches in large conical spikes, and make a beautiful appearance: the calyx is tubular, and divided at the brim into five short blunt segments: the corolla consists of five petals, which are roundish, spreading, undulated at the edges, inserted in the calyx by narrow claws, and of a fine white colour, irregularly spotted with red and yellow: the filaments are seven, tapering, about the length of the corolla, bending at the top, and supplied with pointed antheræ: the germen is round, supporting a short style, furnished with a pointed stigma: the capsule is round, tough, fleshy, beset with spines, divided into three valves, and containing two[b] roundish compressed seeds. It is a native of the northern parts of Asia, and flowers in April and May.

Though the Castanea was well known to the ancients, yet Matthiolus seems to be the first author who describes the Horse Chesnut;[c] which was brought into Europe about the middle of the sixteenth century, and was so scarce in the time of Clusius, that there was then but one tree known at Vienna; which being too young to bear fruit,[d] nuts were obtained from Constantinople in 1588; after which this tree was very generally propagated. It was cultivated in England by Mr. John Tradescant in 1633, and is now very common in this country. The wood is white, soft, soon decays, and is therefore of little value. The fruit in appearance resembles that of the Spanish Chesnut, and is eaten by sheep, goats, deer, oxen, and horses.[e] It contains much farinaceous matter,

[b] The ripe capsule seldom contains more than one, but on being examined in its embryo state, two are constantly found. *Lin. Gen. Plant.*

[c] See his *Epist. medicinal. op. omn. p.* 101. 125. Afterwards in *Comm. in Dioscorid.*

[d] *Murray, App. Med. vol. iv. p.* 63.

[e] Horses are said to eat this fruit greedily, and by it to have been cured of coughs and pulmonary disorders, and hence the name Horse Chesnut. For the purpose of fattening cattle, and particularly sheep, it has been thought necessary to macerate the nuts in caustic alkali, in order to take off the bitterness, afterwards

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which by undergoing a proper process, so as to divest it of its bitterness and acrimony, probably might afford a kind of bread: starch has been made of it, and found to be very good:[f] it appears also to possess a saponaceous quality, as it is used, particularly in France and Switzerland, for the purpose of cleaning woollens, and in washing and bleaching linens.[g]

With a view to its errhine power the Edinburgh College has introduced it into the Materia Medica; as a small portion of the powder, snuffed up the nostrils, readily excites sneezing; even the infusion or decoction of this fruit produces this effect; it has therefore been recommended for the purpose of producing a discharge from the nose, which, in some complaints of the head and eyes, is found to be of considerable benefit.

On the Continent the bark of the Horse Chesnut-tree is held in great estimation as a febrifuge, and upon the credit of several respectable authors appears to be a medicine of great efficacy. Zannichelli,[h] at Venice, was the first who published its successful use in various cases of intermittents; since which its good effects have been confirmed by Leidenfrost, Peipers,[i] Junghanss,[k] Coste, and Willemet,[l] Sabarot De La Varniere,[m] Turra,[n] Buchholz,[o] and

to wash them in water, and then boil them to a paste. (See Bon *Mem. de l'Acad.* 1720. p. 460.) Lime water was also found to answer. (See *Hist. de la Société R. de Montpell. tom. ii. p.* 57.) But if the nuts are cut and mixed with oats or bran, this purpose may be effected with less trouble. *Hannov. Mag.* 1770. *p.* 226.

[f] Parmentier, *Recherches sur les vegetaux nourissans, p.* 176. 218.

[g] Marcandier, *Traité de Chanvre, Leipziger Intelligenzblatt.* 1764. *p.* 46. *De re rustica,* or the *Repository for papers in Agriculture, vol. ii. p.* 75. *sq. &c.*

[h] J. Jac. Zannichelli *Lettera intorno alle Facolta dell' Ippocastano, &c.*

[i] Leidenfrost in Peipers *Diss. de cortice Hippoc. Duisburg.* 1763.

[k] *Diss. de nucis vomicæ et corticis Hippocast. virtute med.* 1770. *p.* 25. *sq.*

[l] *Essais sur les plantes indigenes, p.* 57.

[m] *Journ. de Medec. tom.* 47. *p.* 324.

[n] *Della febbrifuga Facolta dell' Ippocastano, in Vicenza.* 1780.

[o] *Uber Antisept. Subst.* 1776.

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others: from whom it appears, that this bark may be substituted for the Peruvian bark in every case in which the latter is indicated, and with equal, if not superior, advantage.

The Bark, intended for medicinal use, is to be taken from those branches, which are neither very old nor very young, and to be exhibited under similar forms and doses, as directed with respect to the cortex peruvianus. It rarely disagrees with the stomach; but its astringent effects generally require the occasional administration of a laxative.

See *Murray, l. c.*

TROPÆOLUM MAJUS. GREATER INDIAN CRESS, Or NASTURTIUM.

SYNONYMA. Nasturtium indicum. *Pharm. Dale.* 134. *Berg.* 293. *Murray. iv.* 77. *Gerard. Emac.* 252. *Park. Parad.* 280. *Ray. Hist.* 487. Nasturtium indicum majus. *Bauh. Pin.* 306. Viola indica scandens, Nasturtii sapore & odore, flore flavo. *Herm. Hort. Lugd. Bat.* 628. *Ic. Curt. Bot. Magaz.* 23.

Octandria Monogynia. *Lin. Gen. Plant.* 466.

Gen. Ch. *Cal.* 1-phyllus, calcaratus. *Petala* 5, inæqualia. *Bacca* 3, siccæ.

Sp. Ch. T. foliis peltatis subquinquelobis, petalis obtusis.

ROOT annual. Stalk trailing, climbing, round, branched, smooth, succulent, several feet in length. Leaves roundish, marked by several radiated ribs, entire, obscurely five-lobed, standing singly upon long bending footstalks, which are attached to the centre of each leaf. Flowers large, solitary, of a tawny yellow, on long peduncles. Calyx yellowish, large, forming a horn-like nectarium

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behind, divided at the mouth into five irregular segments, which are acute, erect, striated. Corolla consisting of five petals, roundish, of which the two uppermost are bent backwards, marked with black lines at the base, and inserted into the segments of the calyx: the three undermost have long claws or ungues, and are bearded at the base. Filaments eight, yellow, tapering, spreading. Antheræ yellow, four-celled, ovate. Germen triangular. Style simple, erect, yellow. Stigma trifid, acute. Fruit three adhering berries, compact, externally striated, containing three irregular shaped seeds. Its flowers appear from June till October.

This plant is a native of Peru; it was first brought to France in 1684, and there called Le grande Capucine; two years afterwards it was introduced into this country by Dr. Lumley Lloyd,[a] and since that time has been constantly cultivated in British gardens.

In its recent state this plant, and more especially its flowers, have a smell and taste resembling those of water cress; and the leaves, on being bruised in a mortar, emit a pungent odour, somewhat like that of horse radish. By distillation with water they impregnate the fluid in a considerable degree with the smell and flavour of the plant.[b] Hence the antiscorbutic character of the Nasturtium seems to be well founded, at least as far as we are able to judge from its sensible qualities: therefore in all those cases where the warm antiscorbutic vegetables are recommended, this plant may be occasionally adopted as a pleasant and effectual variety.

Patients, to whom the nauseous taste of scurvy-grass is intolerable, may find a grateful substitute in the Nasturtium.

The flowers are frequently used in sallads, and the capsules are by many highly esteemed as a pickle.

The flowers, in the warm summer months, about the time of sun-set, have been observed to emit sparks like those of the electrical kind.[c]

[a] Vide *Hort. Kew.* [b] *Carthcus. Diss. de Cardam. p.* 9.

[c] *Vet. Acad. Handl.* 1762. *p.* 284.

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BERBERIS VULGARIS. COMMON BARBERRY.

SYNONYMA. Berberis. *Pharm. Dale.* 318. *Geoff. iii.* 172. *Alston. ii.* 255. *Lewis.* 144. *Edinb. New Disp.* 146. *Bergius.* 276. *Murr. iv.* 79. *Park. Theat.* 561. Berberis dumetorum. *Bauh. Pin.* 454. *Ray. Hist.* 1605. *Synop.* 463. *Gerard. Emac.* 1325. Berberis vulgaris. *Huds. Flor. Ang.* 137. *Withering. Bot. Arr.* 366. *Ic. Eng. Bot.* 49.

Hexandria Monogynia. *Lin. Gen. Plant.* 442.

Gen. Ch. *Cal.* 6-phyllus. *Petala* 6: ad ungues glandulis 2. *Stylus.* 0. *Bacca* 2-sperma.

Sp. Ch. B. pedunculis racemosis: spinis triplicibus.

A LARGE spreading shrub, furnished with spines, covered with a light grey bark. Leaves inversely ovate, blunt, entire, smooth, minutely serrated, four or five standing together upon simple footstalks. Flowers yellow, in slender pendent racemi. Calyx composed of six leafits, which are ovate, concave, coloured, deciduous, alternately larger and smaller. Corolla consists of six petals, which are roundish, concave, and at the base each furnished with two small oblong orange-coloured corpuscles or nectaries. Filaments six, erect, compressed, tapering, shorter than the petals, and terminated by double antheræ, which adhere to their sides. Germen cylindrical, of the length of the filaments. Style none. Stigma circular, flat, encompassed by a sharp border. Fruit a cylindrical one-celled red berry, containing two oblong seeds.

It is a native of England, growing in woods and hedges, and flowering in June. In shrubberies, and in gardens where it is very generally cultivated, its flowers usually appear much sooner.

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It has been discovered, that the filaments of this shrub possess a remarkable degree of irritability; for on being touched near the base with the point of a pin, a sudden contraction is produced, which may be repeated several times. This contraction of the stamina is evidently for the purpose of throwing the pollen upon the stigma, and is effected by means of insects passing over the bottom of the filaments, which is the part in which their sensibility resides.[a]

Another peculiarity ascribed to this shrub is, that ears of corn growing near it constantly prove abortive, and that it extends this sterile influence over them to the distance of three or four hundred yards across a field;[b] but Mons. Broussonet, a celebrated French naturalist, has refuted this very extraordinary though prevalent opinion.

The fruit or berries, which are gratefully acid,[c] and moderately restringent, are said to be of great use in bilious fluxes, and in all cases where heat, acrimony, and putridity of the humours prevail. On the authority of Alpinus[d] we are informed, that the Egyptians employ them in pestilential fevers and fluxes, with great success; and Simon Paulli relates,[e] that he was cured of a malignant fever, accompanied with a bilious diarrhœa, by using these berries conformably to the Egyptian practice, viz. macerating the fruit for a day and a night in twelve times its quantity of water, with the

[a] See Mr. Whatley's remark from Dr. Sims, in *Bot. Arr. p.* 366. and Dr. Smith's paper in the *Phil. Trans. for* 1788. *p.* 158.

[b] Dr. Withering says, "this shrub should never be permitted to grow in corn lands, for the ears of wheat that grow near it never fill, and its influence in this respect has been known to extend as far as three or four hundred yards." *l. c.*

[c] Retzius says that it approaches very nearly to that of Tamarinds. *Vet. Acad. Handl.* 1776. p. 135. Scheele obtained from it a considerable quantity of the acid of sugar. *Vet. Acad. Handl.* 1785. p. 17.

[d] *P. Alpinus. Med. Ægypt. L.* 4. *c* 1.

[e] Vide *Quadrip. Bot.* 118.

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addition of a little fennel seed; the liquor was then strained, sweetened, and used as a common drink.

That these berries are well calculated to allay heat and thirst, and to correct a putrid tendency in the fluids, will be readily admitted; but in this respect they seem to possess no peculiar advantage over most of the other acid fruits: hence the Colleges of London and Edinburgh have expunged this fruit from the Materia Medica, and retained that of the currant. Barberries however are much more acid, insomuch that they cannot be eaten without the addition of sugar, but when boiled with this, they form a most agreeable rob or jelly; they are also much liked as a sweet-meat, and as a pickle. The bark is said to be purgative,[f] and Ray experienced its good effects in jaundice.

[f] "The roots, boiled in lye, dye wool yellow. In Poland they dye leather of a most beautiful yellow with the bark of the root. The inner bark of the stems dyes linen of a fine yellow with the assistance of allum." *With. l. c.*

SWIETENIA MAHAGONI. MAHOGANY TREE.

(Swieteniæ Cortex. *Pharm. Murray. App. Med. vi.* 132.)

SYNONYMA. Swietenia foliis abrupte pinnatis, pinnulis ovato-lanceolatis obliquis, &c. *Cavanill. Diss. Bot.* 7. *p.* 365. *t.* 209. Cedrela foliis pinnatis, floribus sparsis, ligno graviori. *Browne. Jam. p.* 158. Arbor foliis pinnatis, nullo impari alam claudente, nervo ad latus unum excurrente, &c. *Catesby. Carol. vol.* 2. *p.* 81. Conf. *Jacquin, Select. Stirp. Amer. p.* 127.

Decandria Monogynia. *Lin. Gen. Plant.* 521.

Ess. Gen. Ch. Cal. 5-fidus. *Petala* 5. *Nectarium* cylindricum, ore antheras gerens. *Caps.* 5-locularis, lignosa, basi dehiscens. *Sem.* imbricata, alata.

S. Mahagoni. *Sp. Pl.* 548.

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A VERY large tree, which, by sending off numerous spreading branches, makes a beautiful appearance. Wood hard, compact, of a brownish red, and from its general use well known in England. The bark is rough, scaly, and brown, but upon the young branches grey, and much smoother. Leaves pinnated, alternate, consisting of three, four, or five pairs of pinnulæ, which are entire, ovately lance-shaped, acute, oblique, reclining, on short footstalks. Flowers numerous, small, whitish, in axillary open spikes. Calyx small, bell-shaped, deciduous, cut into five segments. Petals five, inversely ovate, concave, obtuse, spreading. Nectarium monophyllous, cylindrical, erect, of the length of the corolla, divided at the brim into ten pointed teeth. Filaments ten, scarcely visible, inserted beneath the teeth of the nectarium. Antheræ oblong, erect. Germen ovate. Style tapering, erect, of the length of the nectarium. Stigma large, depressed at the top. Capsule ovate, large, obtuse, five-celled, five-valved; valves woody, thick, opening at the base. Seeds numerous, compressed, imbricated, furnished with oblong membranous wings. Receptacle of the seed large, oblong, obtuse, pentagonal.

It is a native of the West Indies, and was first cultivated in England in 1739 by Mr. P. Miller, who then considered it as a species of Cedrus; but Jacquin discovered the Mahogany to be a distinct genus, and called it Swietenia, in honour of Gerard L. B. a Swieten, whose influence with the House of Austria caused the botanic garden at Vienna to be founded.

For the botanical specimen of the tree figured in the annexed plate, we are obliged to Sir Joseph Banks.

The bark of the Swietenia has lately been found, in a considerable degree, to emulate that of the cinchona in its medicinal characters; we have therefore followed the late professor Murray in considering it as an article of the Materia Medica.

This bark, according to Dr. Wright, is "rough, scaly, and brown," as found upon the trunk of a tree, but "that on the

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boughs and twigs is grey and smoother."[a] That intended for medicinal use should be the growth of the trunk, or rather of the larger branches, and is brought here in flattish or somewhat convex pieces, about a foot in length: its epidermis is rough, and immediately under it a thick spongy dark extraneous coat is observed; the inner efficient part of the bark is of a lamellated texture, tough, and of a deep reddish brown;[b] its taste is astringent and bitter, resembling the Peruvian bark, but, in the opinion of Murray, more bitter.

On the testimony of Wright, Lind, and several other respectable authorities, this bark has been found to answer the general purposes of that of the cinchona, and like it also the different species of the tree agree in affording barks possessing in common a certain share of febrifuge power, though in different degrees, and somewhat variable in their sensible qualities. Thus of the nine species of cinchona, lately described by Vahl, the febrifuge character pervades the whole, at least as far as experiments have been made:[c] and Mr. Roxburgh, botanist to the East India Company, has discovered a new species of Swietenia, or Mahogany, the bark of which promises, from his account of it, to be a more efficacious medicine than that here described. This new species of mahogany is called by Mr. Roxburgh Swietenia febrifuga;[d]

[a] See London Medical Journal, vol. 8. p. 286.

[b] This description nearly agrees with that of Murray; but I have found the bark to vary considerably in its appearance, and in its taste.

[c] *Yellow Peruvian bark*, the produce of a species of cinchona, of which we find no botanical account, has been lately brought to London. I have used it at the Small-pox Hospital with more advantage than I ever experienced from the best common bark. Its intense bitterness is the leading character in its sapidity.

[d] This and several other East India plants have been engraved at the expense of the East India Company, but have not yet been published; it differs from the common Mahogany, in having its flowers in large terminal compound spikes, and in its foliola being oblong, and very obtuse.

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and from numerous experiments which he made from its bark, he draws the following conclusions:[e]

1. " The active parts of the bark of Swietenia febrifuga are much more solubile than those of Peruvian bark, particularly in watery menstruums."

2. " That it contains a much larger proportion of active (bitter and astringent) powers than Peruvian bark."

3. " The watery preparations of this bark remain good much longer than similar preparations of Peruvian bark."

4. " The spirituous and watery preparations bear being mixed in any proportion without decomposition."

5. " That this bark in powder, and its preparations, are much more antiseptic than Peruvian bark, or similar preparations of it."

He adds, " From the evident qualities of this new bark, and from the successful experience I have had of it in intermittent fevers, &c. I have every reason to imagine it will prove equal, if not superior, to the Peruvian bark for every purpose where that medicine is used.

Having before given an account of Æsculus Hippocastanum, or Horse-chesnut, the only remaining plant referred to the Materia Medica in the order Trihilatæ is the Trapa natans, called in the Pharmacopœias Tribulus aquaticus, or Nux aquatica (floating water caltrops.) Its fruit or nut is of a quadrangular form, and contains a farinaceous kernel, which was formerly in estimation for its supposed astringent qualities.

[e] See " a botanical description of a new species of Swietenia, (Mahogany) with experiments and observations on the bark thereof, addressed to the Honourable the Court of Directors of the United East India Company, by William Roxburgh."

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ORD. XXXIX. TRICOCCÆ.

(From τρεις three κοκκος a grain)

Plants with a single three-cornered capsule having the cells each containing one seed.

RICINUS COMMUNIS. COMMON PALMA CHRISTI.

SYNONYMA. Ricinus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 496. Ricinus vulgaris. *Bauh. Pin.* 432. *J. Bauh. Hist. iii. p.* 642. Ricinus sive Cataputia major vulgatior. *Park. Theat. p.* 182. *Raii Hist. p.* 166. Ricinus 1. Fruticosus assurgens foliis majoribus peltato-lobatis, lobis serratis acutis. *Browne's Jam. p.* 350. Ricinus Americanus fructu racemoso hispido, &c. *Sloane's Cat.* 38. The Oil nut tree. *Long's Jam. v. iii. p.* 712. Ricinus foliis peltatis inæqualiter serratis, capsulis hispidis. *Miller, Figures of Plants, tab.* 219. In horto botanico Gottingensi tres exstant varietates: α, *glauca,* caule petiolis costisque foliorum stipulis pedunculis capsulisque *pallide rubris.* Ricinus ruber *Rumph. Herb. Amb. tom. iv. p.* 79; β, *nitens,* caule petiolis costis foliorum ceterisque partibus et summis foliis *sanguineis.* Ricinus lucidus Jacquin. *Misc. Austr. vol. ii. p.* 360. et *Icon. rarior. tab.* 27. ut puto; γ, *glauca* totaque *viridis* præter stylos rubicundos. Ricinus albus *Rumph.* l. c. *p.* 92. Avanacœ s. Citavanacu. *Hort. Malab. tom.* 2. *p.* 57. *tab.* 32. Vide *Murr. App. Med. v. iv. p.* 195.

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Class Monoecia. *Ord.* Monadelphia. *Lin. Gen. Plant.* 1085.

Ess. Gen. Ch. *Masc. Cal.* 5-partitus. *Cor.* 0. *Stam.* numerosa. *Fem. Cal.* 3-partitus. *Cor.* 0. *Styli* 3, bifidi. *Caps.* 3 locul. *Sem.* 1.

Sp. Ch. R. foliis peltatis subpalmatis serratis.

THE root is biennial, long, thick, whitish, and beset with many small fibres: the stem is round, thick, jointed, channelled, glaucous, of a purplish red colour towards the top, and rises luxuriantly six or eight feet in height:‡ the leaves are large, and deeply divided into seven lobes or pointed serrated segments, of a bluish green colour: the footstalks are long, tapering, purplish, and inserted in the disc of the leaf (peltated): the flowers are male and female on the same plant, and produced in a clustered terminal spike: the *male flowers* are without a corolla, and consist of a calyx, divided into five oval pointed purplish segments, enclosing numerous long stamina, which unite at the base: the *female flowers* occupy the upper part of the spike, and have the calyx cut into three narrow segments, of a reddish colour: the styles are three, slender, and forked at the apex: the capsule is a large three-celled nut, covered with tough spines, and contains three flattish oblong seeds,‖ which are forced out on the bursting of the capsule. It is a native of both the Indies, and flowers in July and August.

‡ Long says that in Jamaica it grows with surprising rapidity to the height of fifteen or sixteen feet. l. c.

‖ Hujus cuilibet loculo inest nux ovata, utrinque compressa, interiori præcipue superficie, quæ et linea longitudinali distinguitur, magnitudine seminis Phaseoli minoris flore phœniceo, hilo prominente sursum notato, cui callus ante adhæserat. Cortex ex bruno luteoque variegatus, fragilis, cingit nucleum album, vestitum cuticula tenella concolore—Figuræ seminis cum insecto Ricino (Acaro Ricino L.) bobus & canibus infesto, similitudo ansam denominationis totius plantæ dedit. *Murr. Ap. Med. vol. iv. p.* 197.

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This plant appears to be the Κικι, or Κροτων of Dioscorides,[a] who observes that the seeds are powerfully cathartic;† it is also mentioned by Ætius, Paulus Ægineta, and Pliny. The Ricinus was first cultivated in England in the time of Turner,[b] (1562) and is now annually reared in many gardens in the neighbourhood of London; and in that of Dr. Saunders,[c] at Highbury, the plant from which the present figure was taken, it grew to a state of great perfection. An oil extracted from the seeds[d] of this plant, and known by the name of oleum ricini, Palma Christi, or castor oil, is the drug to which the pharmacopœias refer, and which has lately come into frequent use as a quick, but gentle, purgative. The London College direct this oil to be expressed from the seeds in the same

[a] *Mat. Med. lib.* 4. *cap.* 164.

† Their violent and irritating effects in this way are noticed by almost all the Materia Medica writers, and seem to be confirmed by Thunberg, *(Diss. de Medicina Africanorum, p.* 4. and *Browne, l. c.)* This acrimony however appears from later experiments to be owing to the membranes which invest the kernel, *(vide Heyer in Crells n. chem. Entdeck. P.* 2. *p.* 47. Also *Glendenberg in ejusd. chem. Annal.* 1785. *vol. ii. p.* 34.*)* Bergius says, " Semen unicum Ricini vulgaris, tempore vespertino, a viro sano & vegeto masticatum & deglutitum, sapore fuit amygdalarum, sed sensationem mordentem in faucibus reliquit. Per totam noctem tranquille dormivit hic vir; sed sequente die mane expergefactus, emesi violentia correptus fuit atque per totam diem sustinuit nisus alternantes vomituritionis & purgationis alvi, tametsi parum dejiciebat. Eadem vice nobilis matrona teneræ constitutionis, semen unicum pariter comedit, sed prius testam membranamque obvelantem sedulo separavit abjecitque; & nullam noxam inde sensit." *M. M. p.* 774.

[b] *Vide Hort. Kew.*

[c] From the number of seeds which the Doctor has lately procured from different parts of the globe, and his scientific and solicitous care in their cultivation, we are induced to hope, that Medical Botany, under such auspices, will eventually receive considerable illustration.

[d] Where the oil is rejected, the seeds may be carefullly separated from their shells and the inner white membrane, and formed into an emulsion, and given as an agreeable substitute for the oil.

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way as that of almonds,[e] and without the assistance of heat, by which the oil would seem to be obtained in the purest state: however, we have some reason to believe that this method is seldom practised, and that the oil usually employed here is imported from the West Indies, where it is commonly prepared in the following manner: "The seeds being freed from the husks, or pods, which are gathered upon their turning brown, and when beginning to burst open, are first bruised in a mortar, afterwards tied up in a linen bag, and then thrown into a large pot, with a sufficient quantity of water, (about eight gallons to one gallon of the seeds) and boiled till the oil is risen to the surface, when it is carefully skimmed off, strained, and kept for use. Thus prepared, the oil is entirely free from acrimony, and will stay upon the stomach when it rejects all other medicines." And Mr. Long remarks, that "the oil intended for medicinal use is more frequently cold-drawn, or extracted from the bruised seeds by means of a hand-press. But this is thought more acrimonious than what is prepared by coction."[f] Dr. Browne is also of this opinion, and prefers the oil procured by coction to that by expression; he attributes its greater mildness to the action of the fire, observing that the expressed oil, as well as the mixed juices

[e] Some objection has been made to this manner of obtaining the oil, as stated in our pharmacopœia, which we shall here mention in the words of Murray: Expressione si eliceatur oleum, quidam suadent decorticati seminis prævium conquassationem in mortario, *(Canvane Diss. on the Oleum Palmæ Christi. &c. p. 20,)* sed inde ob mucilaginis evolutionem, quæ simul contingit crassum & turbidum evadit oleum (quod bene adjecit Bonelli in *versione libri cl. Canvane. p. 63. Glendenberg l. c. p. 32*), nec nisi difficulter eruitur. Præstat igitur nucleos integros premere. Facilius quoque evocatur oleum ex seminibus, quæ moram aliquam traxerunt, quam ex recentibus; mucilago enim sensim siccior evadere videtur, tumque connubium suum cum oleo relaxare." *(Heyer in Crells Entd. P. 3. p. 74.) l. c.*

[f] *Long's Jamaica, p.* 713. It is well known however, that the oil obtained by boiling becomes much sooner rancid than that by expression. The best oil is limpid, and destitute of taste or smell. In the West Indies it is usually consumed in lamps, and for other domestic purposes.

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of the seeds, are far more active and violent in their operations.[g] Dr. Cullen observes, that "this oil, when the stomach can be "reconciled to it, is one of the most agreeable purgatives we can "employ. It has this particular advantage, that it operates sooner "after its exhibition than any other purgative I know of, as it "commonly operates in two or three hours. It seldom gives any "griping, and its operation is generally moderate, to one, two, "or three stools only. It is particularly suited to cases of costive-"ness, and even to cases of spasmodic cholic. In the West Indies "it is found to be one of the most certain remedies in the dry "belly ach, or colica pictonum.[h] I have never found it heating "or irritating to the rectum, and therefore have found it suffi-"ciently well suited to hæmorrhoidal persons. The only incon-"venience attending the use of this medicine is, that as an oil it "is nauseous to some persons; and that, when the dose is large, "it occasions sickness at the stomach for some time after it is "taken. To obviate these inconveniences, several means have "been tried; but I shall not detail these here, as I can assert, that "the most effectual means is the addition of a little ardent spirit. "For this in the West Indies they employ rum; but that I might "not withdraw any part of the purgative, I employ the tinctura "sennæ composita. This, added in the proportion of one to "three parts of the oil, and very intimately mixed by their being "shaken together in a phial, both makes the oil less nauseous to "the taste, and makes it sit more easy on the stomach. The com-"mon dose of this oil is a table-spoonful, or half an ounce; but "many persons require a double quantity."[i]

[g] L. c. But this is better explained under note †

[h] We may add, that it has been experienced to be an useful medicine in various febrile complaints, and in bilious cholics, nephritic cases, worms, especially the tape worm.

[i] *M. M. vol.* 2. *p.* 563, Dr. Cullen remarks, "It is particularly to be observed of this medicine, that if it be frequently repeated, the dose of it may be gradually more and more diminished. And I know instances of persons who, formerly of a costive habit, at first required half an ounce or more for a dose; but after being frequently repeated, they now find that two drams are enough, at least to keep the belly regular."

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CROTON CASCARILLA. CASCARILLA, Or, WILLOW-LEAVED CROTON.

SYNONYMA. Cascarilla. *Pharm. Lond. & Edinb. olim* Elutheria *dicta.* Ricino affinis odorifera fruticosa major, rosmarini folio, fructu tricocco albido. *Sloane Jam. p.* 133. *tab.* 86. Croton *(Rosmarinifolium)* foliis lineari-lanceolatis, glabris, subtus argenteis, caule fruticoso, floribus spicatis terminalibus. *Mill. Dict.* Croton *lineare* foliis linearibus integerrimis obtusis subtus tomentosis, caule fruticoso. *Aiton. Hort. Kew.* vol. iii. p. 374. *Jacquin Stirp. Americ.* 256. *tab.* 162. *Am. Acad.* 5. *p.* 411.

Class Monoecia. *Ord.* Monadelphia. *L. Gen. Plant.* 1083.

Ess. Gen. Ch. *Masc.* *Cal.* cylindricus, 5-dentatus.
Cor. 5-petala. *Stam.* 10-15.
Fem. *Cal.* polyphyllus. *Cor.* 0. *Styli* 3, bifidi.
Caps. 3-locularis. *Sem.* 1.

Sp. Ch. C. fol. lanceolatis acutis integerrimis petiolatis subtus tomentosis, caule arboreo.

THIS Shrub never rises to any considerable height; it sends off several round branches, and is covered with a brown bark, the external coat of which is white and rough: the leaves are long, narrow, entire, somewhat pointed, placed on short footstalks, above of a bright green colour, beneath downy, and of a silvery whiteness; the stipulæ, or scaly leaves, are narrow and lance-shaped; the flowers are produced about July, in a long terminal spike, and are both male and female: the male flowers are placed uppermost, and are furnished with a cylindrical calyx, cut at its extremity into five segments; the petals are five, small, oval, and

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of a white or yellowish colour; the stamina are numerous, commonly from ten to fifteen. The *female flowers* have no corolla; the calyx consists of five or six oval leaves; the styles are three, forked; the capsule divides into three cells, each of which contains a single seed.

Writers on the Materia Medica have differed much respecting the plant which produces the officinal cortex cascarillæ;[a] and even now this point does not appear to be sufficiently ascertained: the London College has therefore cautiously avoided making any botanical reference to the plant which affords it. Linnæus, whose authority is certainly the best, in his first edition of the Mat. Med. considered the Cascarilla as a species of the Clutia; but in the second edition it is described as a Croton, and in his *Amœnitates Academicæ* we are again presented with the Clutia *Cascarilla.*[b] What adds to this uncertainty is, that under both these genera it is referred to the same synonyma of Sloane and Browne; yet it is remarkable, that neither of these authors notices the medicinal uses of its bark,[c] although so long known as a medicine in great estimation in every part of Europe.

The plant,[d] from which the annexed figure of the Cascarilla is taken, was found to agree very accurately with the generic cha-

[a] This may be understood from the following names:

Cortex Thuris. *Dale Pharmac. p.* 346. Cortex Thuris nonnullis dictus, vel Thymiama. *Raii Hist.* 1841. Storax rubra officinarum. *Bauh. Pin.* 453. Thus Judæorum. *Park. Theat.* 1602. Schakarilla, Chakarilla. *Mout. Exot.* 8. Kina-kina Aromatica, Cascarilla, Cortex Eleterii sive Scacarilla officinarum, Cortex peruvianus griseus sive spurius. *Geoff. M. M.*

[b] Vide vol. 5. p. 411.

[c] It is mentioned only as being used in medicated baths, and for fomentations. Vide Sloane l. c. The Ricinoides Elæagni folio of Catesby, is stated by him to be a good aromatic bitter, and, on being burnt, to yield a fine perfume. Carolin. vol. 2. p. 46. Walter, in his *Flor. Carolin*, does not mention the Cascarilla, though he discovered a new species of the Croton.

[d] This specimen was procured from the garden at Sion-House, the seat of his Grace the Duke of Northumberland

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racter of the Croton, as the plate itself must evince: we are therefore under no difficulty in assigning it to that genus. Whether the Cascarilla then is really a Croton or a Clutia, depends upon the fidelity and precision with which the synonyma have been respectively applied.* According to Lewis, the Cortex Cascarillæ is imported into Europe "from the Bahama islands, particularly from that which is called Elatheria, in curled pieces, or rolled up into short quills about an inch in width; covered on the outside with a rough whitish matter, and brownish on the inner side, exhibiting, when broken, a smooth close blackish brown surface. This bark, freed from the outer whitish coat, which is insipid and inodorous, has a light agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth; it is very inflammable, and yields, whilst burning, a remarkably fragrant smell, somewhat resembling that of musk. Its virtues are partially extracted by water, and totally by rectified spirit. Distilled with water it yields a greenish essential oil, of a very pungent taste, and of a fragrant penetrating smell, more grateful than that of the Cascarilla itself, and obtained in the proportion of one dram from sixteen ounces of the bark."† The agreeable odour which this bark produces during its burning, induced many to smoke it mixed with tobacco,‡ before it became known as a medicine in Europe, which was not till towards the latter end of the last century; when it was recommended by Professor Stisser,§ who found it to be a powerful diuretic and carminative, and who used it with success in calculous, asthmatic, phthisical, scorbutic, and arthritic complaints. After this it was sold at Brunswick as a

* Murray, Bergius, Spielman, the Edinburgh and most of the foreign Pharm. make it a Croton.

† The analysis, given by Böhmer, differs from this; for which see *Diss. de cort. cascar. p.* 29.

‡ When used in a considerable quantity in this way, it is said to produce intoxication.

§ Anno 1690. *Vide Act. laborat. chym. specim. cap.* 9.

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species of the Peruvian bark, and many physicians in Germany experienced its good effects in fevers of the intermittent, remittent, and putrid kind.[h] But while the facts establishing this febrifuge power of the Cascarilla are supported by authors of great respectability,[i] they are yet so little regarded, that this medicine is now very rarely prescribed in fevers, either in this country, or on the neighbouring continent. In intermittents, however, there can be no doubt but this bark, or indeed any other medicine possessing tonic and aromatic qualities, may frequently effect a cure. The German physicians have also given much credit to the Cascarilla as an astringent, and recommended it in hæmorrhages, and various alvine fluxes, in which several instances of its utility are recorded.[k]

Dr. Cullen was in doubt whether to class this drug with the aromatics or with the tonics, but he determined upon the latter as the most proper; besides its being stomachic and corroborant, it is also reported to be diuretic: but proofs of its efficacy in particular diseases have not (as far as we know) been ascertained, nor even attempted by any adequate trials made in this country.[l] We shall not therefore follow a late ingenious author, in depreciating this medicine, from a mere speculation on its sensible qualities, but rather recommend it to the medical practitioner, as deserving a farther trial. It promises most advantage given in substance, the dose of which is from fifteen grains to a dram.

[h] Ludovicus Apinus first employed it in fevers, and experienced great success by its use in an epidemic, which raged in the neighbourhood of Nurenburg, (by Lewis erroneously called Norway) during the years 1694 and 1695. *Feb. epidem. historica relatio.*

[i] Junker, Fagon, Werlhof, Santhesson, and others.

[k] Degner de dysent. bil p. 164. Bergius Mat. Med. p. 766. Hist. de l'Acad. Royale des Sc. pour l'ann. 1719.

[l] What is said of it by Monro, (Milit. Hospit. p. 202.) and by Lind. (Diss. in hot climates) cannot be considered as exceptions.

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The Author takes this opportunity of observing, that all the figures which he has published, were taken either from dried or recent specimens, excepting in very few instances, where he was under the necessity of resorting to the plates of others; this, however, was never done but upon unquestionably good authorities.—And whenever future discoveries shall shew that he has been misled, he will not fail to acknowledge it: the only instance that has yet occured to him is the following of Cascarilla.

CLUTIA ELUTERIA. CASCARILLA CLUTIA.

SYNONYMA. Cascarilla. *Pharm. Lond.* & *Edinb.* Elutheria et Eluteria, Auctorum. Clutia *(Elutheria)* foliis cordato-lanceolatis. *Mill. Dict. Amœn. Acad.* vol. 5. *p.* 411. *Hort. Cliff.* 486. *Flor. Zeyl.* 366.

Class Dioecia. *Ord.* Pentandria. *Lin. Gen. Plant.* 1140.

Gen. Ch. *Masc. Cal.* 5-phyllus. *Cor.* 5-petala.
Fem. Cal. 5-phyllus. *Cor.* 5-petala. *Styli* 3. *Caps.* 3-locularis. *Sem.* 1.

Sp. Ch. C. foliis cordato-lanceolatis.

THIS small tree grows several feet in height, and sends off numerous branches, especially towards the top: the bark which covers the branches is brown and smooth, but that of the trunk is externally more white and rough: the leaves are entire, lanceolate, somewhat cordate, and elongated towards the apex, which is blunt, on the upper side of a bright green, on the under side paler, and placed alternately upon long footstalks. Both the male and

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female flowers stand in spikes, and are composed of a calyx divided into five ovate leafits, enclosing an equal number of small whitish petals, and within these the nectaria are placed. The female flower produces a roundish germen, supporting three bifid spreading styles, terminated by obtuse stigmata: the capsule is globular, rough, marked with six furrows, and divided into three cells, containing a solitary oval shining seed.

The history of the Cascarilla Clutia will determine what was left doubtful in that of the Croton Cascarilla, which is figured on the authority of Linnæus;[a] though we then observed that it did not appear "sufficiently ascertained" whether or no it furnished the officinal Cascarilla. This point however we can now confidently decide in the negative.

Among other circumstances, which tended to involve the parental source of Cascarilla long in uncertainty, was the assertion of some authors,[b] that it was a native of the Spanish Main, and was thence imported into Europe; thus founding a presumption, that the Cascarilla and Elutheria Barks were different, and that the latter only was the produce of the Bahama Islands. But this assertion we have discovered to be contrary to fact; for, upon inquiry, we do not find that this drug was ever exported from Spanish America, but that the Bahamas have constantly supplied the European markets with Cascarilla bark, a parcel of which was sent here from one of those Islands, along with specimens of the tree producing it; of which the figure here given is a faithful representation, as may be seen by comparing it with the original in the herbarium of Sir Joseph Banks.

But it will be necessary to observe here, that Dr. Wright, in his account of the medicinal plants growing in Jamaica,[c] gives the name Croton Elutheria to a tree, the bark of which he says "is the

[a] The bark of this plant, according to Dr. Wright, has none of the sensible qualities of Cascarilla.

[b] See Boulduc. *Hist. de l'Ac. des Sc.* 1719. *p.* 14. Spielmann *M. M. p.* 249.

[c] *Med. Journ. vol.* 8. *p.* 3.

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same as the Cascarilla or Elutheria of the shops:" it seems therefore probable, that different species of Clutia may produce bark of the same, or of similar qualities to that of Cascarilla, as we find several instances in which the same drug is produced by various species of plants.

That the tree here called by Dr. Wright Croton does not belong to this genus, but it is evidently a Clutia, appears by the dioicous specimen of it sent by him to the President of the Royal Society; a part of which, with the male flowers, is delineated in the present plate, in order that the Jamaica and Bahama Cascarilla may be compared together; the former being distinguished by figure I.

The Clutia Eluteria seems to have been first introduced into Britain by Mr. P. Miller; but it is not to be found in the King's garden at Kew, nor have we seen it cultivated any where near the Metropolis. According to a late German author,[d] it grows abundantly in the Bahama Islands, where the bark, which forms a principal export, is sold at the very low rate of 10*s.* 6*d.* ℔ ⊕.

Respecting the medical history, qualities, and uses of Cascarilla bark, we have nothing to add to what is given in the preceding article.

[d] Vide J. D. Schæpf. *Reise durch einige der mittlern und südlichen vereinigten cordameritanischen staaten nac ost-Florida undden Bahama Inseln.*

SIPHONIA ELASTICA. INDIA RUBBER; Or ELASTIC RESIN TREE.

SYNONYMA. Hevea guianensis. *Aublet. Histore des plantes de la Guiane Françoise. tom. 2. p. 871. tab. 335.* Caoutchouc. *Richard, in Rozier obs. sur la physique. tom. 27. p. 138. t. 2.* Jatropa elastica. *Supp. Plant.* The Figure by Fresnau in Mem. de L'Acad. des Scien. a. 175. t. 20. is erroneous.

Monoecia Monadelphia. *Schr. Gen. Plant.* 1465.

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Gen. Ch. *Masc. Cor.* 0. *Cal.* globoso-campanulatus, semiquinquefidus. *Filament.* colum. *Antheræ.* 5, adnatæ.

Fem. Cor. 0. *Cal.* 5-fidus, patens, solitarius, racemum terminans. *Stylus* 0. *Stigmata* 3. *Caps.* 3-locularis, lignosa, durissima.

Sp. Ch. S. foliis ternatis ellipticis integerrimis subtus canis longe petiolatis. Supp. Plant.

A LARGE straight tree, growing to the height of fifty or sixty feet; at the upper part sending off numerous branches, covered with rough bark. Leaves on long footstalks, ternate, elliptical, somewhat pointed, entire, veined, smooth, on the under side whitish. Flowers male and female on the same tree, small, in dividing racemi at the ends of the branches. *Male flowers* numerous: calyx globoso-campanulate, five-cleft, segments erect, pointed. Corolla none. Filaments in a column, shorter than the calyx. Antheræ five, united. *Female flower* solitary, larger than the male, and placed at the extremity of the racemus: calyx bell-shaped, cut into five teeth, which are acute, patent, or recurved, deciduous. Germen roundish, shorter than the calyx. Style none. Stigmata three, depressed. Capsule large, three-parted, woody, very hard, covered with fibrous bark, three-celled, valves opening. Seeds ovate, spotted.

This tree is a native of South America, growing abundantly in the woods of Guiana, in the Province of Quito, and along the borders of the River Amazons, in the kingdom of Mexico.

The younger Linnæus admitted this tree into the *Supp. Plant.* under the genus Jatropa, to which its fruit seemed to bear a greater affinity than to that of any other; but by the diligence of Richard[a] its characters have been found sufficiently different to constitute a new genus, which Schreber calls Siphonia. This we have therefore adopted, still preserving the specific name elastica.

[a] Vide *Rozier obs. sur la physique. tom.* 27.

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The substance, known by the names India rubber, elastic gum, Cayenne resin, cautchuc, and by the French caoutchouc, is prepared from the juice of this tree: as subservient to several medical or chirurgical purposes, it comes within the scope of this work, and must therefore prove sufficiently interesting to the medical reader.

This singular substance was little known in Europe till long after the commencement of the last century; and its origin and composition was first learned from M. de la Condamine,[b] who by travelling into the interior parts of South America had an opportunity of acquiring the necessary information. This active and enterprizing member of the French Academy found that the Caoutchouc was formed from the juice of a large tree, which has since been botanically examined and ascertained to be that here represented.[c]

The manner of obtaining this juice is by making incisions through the bark of the lower part of the trunk of the tree, from which the fluid resin issues in great abundance, appearing of a milky whiteness as it flows into the vessel placed to receive it, and into which it is conducted by means of a tube or leaf fixed in the incision, and supported with clay. On exposure to the air this milky juice, according to Aublet, gradually inspissates into a soft reddish elastic resin; but M. de la Borde, and some others, assert that the juice undergoes a certain preparation before its inspissation, which is effected by a peculiar process, which the Indians keep a profound secret.[d] To suit the different purposes for which it is employed in South America, the Caoutchouc is shaped into various forms;[e] but it is commonly brought to Europe in that of

[b] *Relation d'un voyage dans l'interieur de l'Amerique meridionale, in Mem. de l'Acad.* 1751. *p.* 322.

[c] It was taken from a very complete specimen in the possession of Sir Joseph Banks. We must remark however, that some other vegetable juices admit of being formed into a species of caoutchouc, of which Fresnau has given an account. *L. c. p.* 324.

[d] Vide *Rozier. obs. et mem. sur la physique. tom.* 1. *p.* 464.

[e] The curious diversity of figures in which this substance was sold in Portugal is noticed by Mr. Twiss. See *Travels through Portugal and Spain.* 323.

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pear-shaped bottles, which are said to be formed by spreading the juice of the Siphonia over a proper mould of clay, and as soon as one layer is dry another is added till the bottle be of the thickness desired. It is then exposed to a dense smoke, or to a fire, until it becomes so dry as not to stick to the fingers, when by means of certain instruments of iron or wood it is ornamented on the outside with various figures. This being done it remains only to pick out the mould, which is easily effected, on being first softened with water.

The substance, thus manufactured, is so well known as to render any particular description of it unnecessary. It may be subjected to the action of some of the most powerful menstrua without suffering the least change, while its pliability and elasticity are eminently peculiar to itself. It is true that the lactescent juice of several vegetables may be converted into a substance resembling the Caoutchouc, but no art has yet been discovered to give it the same properties.

The Chinese elastic resin is said to be prepared of castor oil and lime;[f] or, according to Retzius, it is nothing but a certain expressed oil evaporated by heat:[g] hence its easy solubility.

With a view to investigate the interesting nature of the Caoutchouc, and to render it of more general utility, several able chemists have been diligently employed, especially Macquer,[h] Achard,[i] Juliaans,[k] and Berniard,[l] from whom its chemical history is to be learned: our duty however is to state only some of the principal facts.

Though it appears that neither water nor alcohol, aided by all the heat capable of being produced in Papin's digester, could dissolve this substance, yet its solution was effected not only by

[f] V. Faujas de Saint-Fond *Suite de la description des experiences aërostatiques tom. 2. p.* 258.

[g] *Pharm. rcg. veg. p.* 60. [h] *Mem. de l'Acad. des Sc. de Paris, pour* 1768.

[i] *Chymisch phys. Schriften cap. De resina elastica.*

[k] *Diss. de Resina elastica Cayennensi.* [l] See *Rozier Obs. sur la Physique. tom.* 17.

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the concentrated mineral acids, but in a considerable degree even by most of the unctuous, distilled, and empyreumatic oils. However, as it was found that the solutions of this inspissated juice by these menstrua irrecoverably lost their elasticity, and became useless, the great desideratum of re-forming the Caoutchouc was not attained till ether was employed as its solvent; which was first done by Macquer, who for this purpose found it necessary to use the vitriolic ether in a highly rectified state.

The Caoutchouc, cut into small pieces, and put into a proper vessel with as much of the ether as was sufficient to cover it, was completely dissolved without the application of heat. This solution, which was transparent, and of an amber colour, on being thrown into water, did not produce a milky liquor; but there arose to the surface a solid membrane, possessing the elasticity and other properties of the Caoutchouc. This experiment was also executed with success by Theden;[m] therefore those with whom it failed must have used ether in a less concentrated state. According to Theden one dram of the Caoutchouc requires for its perfect solution an ounce of ether. Nitrous ether dissolves but a small proportion of the Caoutchouc, and at the same time destroys its elastic power.

It has been asserted that the elastic resin not only dissolves in oil of guaiacum by digestion, but that on evaporating the oil, the resin in a little time recovers its elastic property. By the industry of Achard, who made this discovery, we likewise learn that solutions of this substance, made by the etherial oils, may be decomposed by the addition of spirit of wine, when the Caoutchouc separates from the oil in the form of mucilage, and on being sufficiently exposed to the air, is restored to its former firmness and elasticity.

However Juliaans, who attempted this process, was unable to re-produce a substance possessing the characters of the elastic resin: it is therefore to be feared that this method, which seemed

[m] *N Bemerk. a. d. Wundarzneyk. P. 2. p. 152.*

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to promise an easy and cheap way of forming various instruments of the Caoutchouc, has been prematurely recommended: nor does this method of softening the elastic resin with the animal oil of Dippelius, or with oil of turpentine, as proposed by Herissant, for the purpose of forming it into probes, &c. produce the effect desired. It appears therefore that Macquer's process of dissolving this substance in ether, by which he was enabled to give a coat of Caoutchouc of considerable thickness to a cylindrical mould of wax, is the best way yet discovered of adapting this substance to surgical and other purposes: for on immersing the waxen mould, thus covered with the elastic resin, in boiling water, the wax soon melts and rises to the surface, leaving behind a regular tube of Caoutchouc. In order to render the tubes of sufficient firmness to be used as catheters, it has been recommended that gold or silver wire, rolled in a close spiral manner, should be coated with the elastic resin, and these, as possessing both pliability and firmness, are said to succeed very well. Various other methods of forming catheters, bougies, pessaries, trusses, &c. of this substance, are to be found in the Journal de Medicine,[a] especially by Durand and Juville; and by its remarkable flexibility and elasticity it accommodates itself to the motion of the body, and thereby possesses peculiar advantages. For a syringe, or injecting machine, the common form in which it is brought here is exceedingly well adapted, and only requires that a proper pipe be fixed to the neck of the elastic bottle to render it fit for use, which is now well known.

We are told that in Quito one of these bottles, fastened to a hollow reed, and filled with water, is always presented at entertainments to each of the guests, who use it as an injection before eating.

The Indians make boots of the Caoutchouc; also a kind of cloth which they use for the same purposes as we use oil cloth. Flambeaux are likewise made of this resin, which yield a beautiful light without any disagreeable smell. In this country it is much used for rubbing out black-lead pencil marks.

[a] See *tom.* 60. & 62.

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THEA. TEA-TREE.

SYNONYMA. Thea. *Pharm. V. Dale, Geoffroy, Alston, Lewis, Ed. New Dispens. Bergius, Murray, Cullen, &c.* Chaa. *Bauh. Pin.* The Sinensium seu Tsia Japonensibus. *Breyn. Exot. Plant.* Tsja, Thea frutex folio Cerasi flore Rosæ sylvestris. *Kämpfer. Amœn. exot.* Le Thee. *Fougeroux de Bondaroi* in *Rozier, Obs. et Mem. sur la Physique. tom.* 1. *f.* 1. See *Lettsom's Natural History of the Tea-Tree.*

Polyandria Monogynia. *Lin. Gen. Plant.* 668.

Gen. Ch. *Cor.* 6-s. 9-petala: *Cal.* 5-s. 6-phyllus. *Caps.* 3-cocca.

Sp. Ch. α *(Bohea)* foliis elliptico-oblongis rugosis.
Broad-leav'd Tea.

β foliis lanceolatis planis.
Narrow-leav'd Tea.
Aiton. Hort. Kew.

A SMALL evergreen or shrub, much branched, and covered with a rough dark grey bark. Leaves elliptical, or lanceolate, entire, alternate, obtusely serrated, veined, placed on short foot-stalks. Calyx small, smooth, persistent, divided into five obtuse segments. Flowers white, often two or three together, on separate peduncles, placed at the axillæ of the leaves. Corolla varying in the number and size of its petals, but commonly six, of an irregular roundish form. Filaments very numerous, short, inserted at the base of the corolla. Antheræ large, yellow. Germen roundish, or rather triangular. Style trifid, spreading at the top, and furnished with simple stigmata. Capsule three-celled, opening. Seeds three, oblong, brown.

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This shrub is a native of China and Japan, and (according to Mr. Aiton) was first introduced into this country in 1768 by John Ellis, Esq. who raised it from seed, and presented it to the King's gardener at Kew. But we are told that the Tea-plant which first flowered in Europe, belonged to his Grace the Duke of Northumberland, at Sion-house.

All the various kinds of Tea imported here come under the denomination of Bohea and Green, and even these are supposed to be the produce of the same species of the plant. Linnæus however has described them as specifically different, founding the distinction in the number of their petals. Others have also observed, that the leaves of Tea plants differ considerably both in form and colour, and this difference we have frequently noticed in the Tea growing in the vicinity of London; but whether these which the gardeners sell by the name of Bohea and Green Tea plants are to be regarded as permanent varieties, or distinct species, we have not the means to decide. De Loureiro * has described three species of Thea, viz. Thea cochinchinensis, Thea cantonensis, and Thea oleosa. The first is a native of Cochin-China, where it is also cultivated, and used medicinally in hot weather as a sudorific and refrigerant. The Thea oleosa grows wild in the neighbourhood of Canton, where an oil obtained from its seed is used for various domestic purposes. The Thea cantonensis, which Loureiro carefully examined in its native soil, was found to bear a close resemblance to another variety called *Siaŏ chong chá*, and by the Europeans Souchong. Both these are brown, but more fragrant and valuable than the common green Tea, which grows in the province of *Fo kien*. Notwithstanding that this author has described the three species of Thea above mentioned, he says that on examining the dried flowers of the green Tea, brought from the province of Kiang si, he observed a great diversity in the number of the parts of the calyx and corolla: hence he concludes that all the various Chinese Teas are taken from the same botanical species,

* Flor. Cochinchinesis.

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and that the different flavour and appearance of Teas depend upon the nature of the soil, the culture, and method of preparing the leaves.

This opinion, which is founded on the sportive tendency of the flowers of the Tea plant, clearly shows the fallacy of distinguishing the bohea and green Tea trees by the number of their petals, which even in this country have been found to vary from three to nine; yet this circumstance, though it proves the insufficiency of the Linnean characters, by no means determines the botanical identity of the green and bohea Teas; and while the present narrow and jealous policy of the Chinese continues, many interesting particulars respecting the natural history of Tea must still remain unknown to Europeans: hence I have thought myself unauthorized to add a specific name to the plate of the Tea plant here annexed, * which represents the variety β in the *Hort. Kew.* or the Thea viridis of the London gardeners.

The various Teas imported into Europe are obtained both from the wild and cultivated plant. The manner of gathering and preparing the leaves, as practiced in Japan, is very fully described by Kæmpfer, and is, as far as our information extends, conformable to the method used by the Chinese.

The first gathering of the Tea leaves, according to this author, commences about the latter end of February, when the leaves are young and unexpanded. The second collection is made about the beginning of April, and the third in June. The first collection, which consists only of the fine tender leaves, is most esteemed, and is called Imperial Tea. The second is called Tootsjaa, or Chinese Tea, because it is infused and drunk after the Chinese manner. The last, which is the coarsest and cheapest, is chiefly consumed by the lower class of people. Besides the three kinds of Tea here noticed, it may be observed, that by garbling or sorting these, the varieties of Tea become still farther multiplied. As many Tea plants grow on cliffs and places of difficult access, the Chinese

* Taken from the plant now in flower in the stove of John Liptrap, Esq.

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Tea gatherers are said† to have occasional recourse to the assistance of monkies, which are chased up the Tea trees, and so much irritated that in their fury they bite off the branches, and throw them down in resentment: the branches are then taken up, and the leaves picked off. The leaves are not collected from the cultivated plant till it is three years old; and after growing seven or ten years it is cut down, in order that the numerous young shoots may afford a greater supply of leaves.

The leaves should be dried as soon as possible after they are collected; and for this purpose Kæmpfer relates, that public buildings are erected, containing from five to ten and even twenty small furnaces about three feet high, each having at the top a large iron pan. There is also a long table covered with mats, on which the leaves are laid and rolled by workmen who sit round it. The iron pan being heated to a certain degree, by a fire made in the furnace beneath, a few pounds of the leaves are put upon the pan, and continually turned and shifted by the hands till they become too hot to be endured; they are then thrown upon the mats to be rolled, which is done between the palms of the hands, after which they are cooled as speedily as possible.

In order that all the moisture of the leaves may be completely dissipated, and their twisted form be better preserved, the above process is repeated several times with the same leaves, but less heat is employed than at first. The Tea thus manufactured is afterwards sorted according to its kinds or goodness. Some of the young tender leaves are never rolled, and are immersed in hot water before they are dried.

From this account of the Japanese method of curing their Teas it appears, that a prompt and complete exsiccation is the chief art employed. We suspect however, that the Chinese are more indebted to art than to nature for the various kinds of Tea with which they supply this country. Many of their Teas are so widely different in taste, odour, colour, and form, that instead of appear-

† See *Lettsom. l. c.*

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ing to be the leaves of the same species of plant, they are so much disguised as scarcely to manifest any resemblance to each other. It is true that some species and varieties of the Tea, as appears by Loureiro, are naturally more odorous than others; yet we cannot suppose that nature ever made them totally different. The same observation will be equally applicable to the various flavours and colours of this exotic. We may therefore infer, that the Chinese method of curing their fine Teas is not quite so *simple* as that practised by the Japanese.

Tea was first introduced into Europe by the Dutch East India Company, and into England about the year 1666, when it sold for sixty shillings ℔ lb, and for many years its great price limited its use only to the most opulent. However, for a long time past it has been the common beverage of both the rich and poor; and its effects have been very variously represented; but as to enter fully upon this subject would far exceed the limits of this work, I shall refer the reader for a more full account to Dr. Lettsom's elaborate history of the Tea tree; and conclude this article with a transcript of its medicinal powers, as given by Dr. Cullen, whose opinion in this place cannot fail to be well received.

"With respect to its qualities as a medicine, that is, its power "of changing the state of the human body, we might suppose it "ascertained by the experience of its daily use; but from the "universality of this use in very different conditions of the plant, "and in every possible condition of the persons employing it, "the conclusions drawn from its effects must be very precarious "and ambiguous, and we must attempt by other means to "ascertain its qualities with more certainty.

"To this purpose it appears, from the accurate Dr. Smith's "experiments *De Actione Musculari*, No. 36, that an infusion of "green Tea has the effect of destroying the sensibility of the "nerves, and the irritability of the muscles; and from the expe- "riments of Dr. Lettsom, it appears that green Tea gives out in "distillation an odorous water, which is powerfully narcotic.

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"That the recent plant contains such an odorous narcotic "power, we might presume from the necessity which the Chinese "find of drying it with much heat before it can be brought into "use; and that, even after such preparation, they must abstain "from the use of it for a year or more, that is, till its volatile "parts are still farther dissipated: and it is said, that unless they "use this precaution, the Tea in a more recent state manifestly "shows strong narcotic powers. Even in this country, the more "odorous Teas often show their sedative powers in weakening the "nerves of the stomach, and indeed of the whole system.

"From these considerations we conclude very firmly, that Tea "is to be considered as a narcotic and sedative substance; and that "it is especially such in its most odorous state, and therefore less "in the bohea than in the green Tea, and the most so in the more "odorous, or what are called the finer kinds of the latter.

"Its effects, however, seem to be very different in different "persons; and hence the different, and even contradictory ac-"counts that are reported of these effects. But if we consider "the difference of constitution, which occasions some difference "of the operation of the same medicine in different persons, and "of which we have a remarkable proof in the operation of opium, "we shall not be surprised at the different operations of Tea.

"If to this we add the fallacy arising from the condition of the "Tea employed, which is often so inert as to have no effects at "all; and if we still add to this the power of habit, which can "destroy the powers of the most powerful substances, we shall "not allow the various and even contradictory reports of its "effects to alter our judgment, with respect to its ordinary and "more general qualities in affecting the human body.

"These, from the experiments above mentioned, and from the "observations which I have made in the course of fifty years, in "all sorts of persons, I am convinced that the qualities of Tea are "narcotic and sedative.

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" It has been often alleged, that some of the bad effects imputed " to Tea are truly owing to the large quantity of warm water " which commonly accompanies it; and it is possible that some " bad effects may arise from this cause: but from attentive obser- " vation I can assert, that wherever any considerable effects " appear, they are in nine of every ten persons entirely from the " qualities of the Tea; and that any like effects of warm water do " not appear in one of a hundred who take in this very largely.

" But while we thus endeavour to establish the poisonous nature " of Tea, we do not at the same time deny that it may sometimes " show useful qualities. It is very possible, that in certain persons, " taken in moderate quantity, it may, like other narcotics in a " moderate dose, prove exhilirating, or, like these, have some " effect in taking off irritability, or in quieting some irregularities " of the nervous system.

" As its bad effects have been often imputed to the warm water " that accompanies it, so we have no doubt that some of its good " effects may also be ascribed to the same cause, and particularly " its being so often grateful after a full meal."[a]

[a] *Mat. Med. vol. 2. p. 309.*

WINTERA AROMATICA. WINTER's BARK TREE.

SYNONYMA. Winterana aromatica. *Solander* in *Med. Observations & Inquiries, vol. 5. p. 41. t. 1.* Drimys Winteri pedunculis aggregatis terminalibus. *Forster* in *Nov. Act. Upsal. vol. 3. p. 181.* Laurifolia magelliana, cortice acri. *Bauh. Pin.* Periclymenum rectum foliis laurinis cortice acri aromatico. *Sloane* in *Phil. Trans. vol. 17. p. 923. tab. 1. f. 1. 2.*

Winteranus cortex. *Pharm. Edinb.*

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Polyandria Tetragynia. *Schreb. Gen. Plant.* 929.

Gen. Ch. *Cal.* 3-lobus. *Petala* 6. s. 12. *Germina* clavata. *Stylus* 0. *Bacca* clavata.

Sp. Ch. W. pedunculis aggregatis terminalibus, pistillis quatuor.

THIS very large tree often rises to the height of fifty feet. The bark of the trunk is grey, and somewhat wrinkled, but that on the branches is green and smooth. Leaves oval, or elliptical, entire, obtuse, flat, smooth, shining, evergreen, of a pale bluish colour underneath, and placed irregularly upon thick footstalks. Flowers white, placed on long peduncles, which proceed from the alæ of the leaves at the tops of the branches. Bracteæ oblong, entire, concave, pointed, whitish, placed at the base of the peduncles. Calyx of one leaf, firm, dividing into three irregular pointed lobes. Corolla of seven petals, which are unequal, oval, obtuse, concave, erect, white. Filaments numerous, (from 15 to 30) much shorter than the petals. Antheræ large, oval, divided longitudinally. Germina from three to six, turbinated. Styles none. Stigmata divided, flat. Capsules fleshy, containing four triangular seeds.

It is a native of the Streights of Magellan and Terra del Fuego.

Dr. Solander relates that "the tree which produces the Winter's "Bark was utterly unknown to the Europeans till the return of "Captain John Winter, who, in the year 1577, sailed with Sir "Francis Drake, as commander of a ship called the Elizabeth, "destined for the South Seas; but immediately after they had "got through the Streights of Magellan, Captain Winter, on the "8th of October, was obliged, by stress of weather, to part com-"pany, and to go back again into the Streights, from whence he "returned into England in June 1579, and brought with him "several pieces of this aromatic bark, which Clusius called after "him Cortex Winteranus. Several authors have mentioned it "since in their botanical works; but all they have said has been

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" copied from Clusius. No more was heard of this bark till the " Dutch Fleet, under Admiral Van Nort, returned from the " Streights of Magellan, in the year 1600. Afterwards all the " navigators who passed through the Streights of Magellan took " notice of the tree, on account of the usefulness of its bark: " but none furnished any description that could make it bo- " tanically known before Mr. George Handasyd came back from " the Streights of Magellan in 1691, and brought with him some " dried specimens, which he gave to Sir Hans Sloane, and are now " preserved in the British Museum. From these specimens, and " the account Mr. Handasyd gave of this tree, Sir Hans Sloane " drew up a history, and gave a figure in the Philosophical " Transactions. Still the systematical botanists could not give it " a place in their catalogues, being unacquainted with its flowers " and fruit." However this loss was supplied by the industry of Mr. Wallis, Captain of the Dolphin, who returned from the South Seas in 1768, bringing with him several botanical specimens of the Winter's Bark Tree, one of which came into the possession of Dr. John Fothergill, who caused an engraving of it to be made by Ehret, which is published, together with its botanical description written by Dr. Solander, in the fifth volume of the *Medical Observations and Inquiries*. From the plate here alluded to, the annexed figure is taken.

Though Winter's Bark has been very generally confounded with the canella alba, yet they are well known to be totally different.

Winter's Bark is of a dark brown cinnamon colour, with an aromatic smell when rubbed, and of a pungent hot spicy taste, which is lasting on the palate, though imparted slowly.

The bark has been thought to be a useful antiscorbutic; but in this character it seems to possess no advantage over the other pungent aromatics, and is now generally superseded by the canella alba.

In natural order the Wintera has been ranked with the oleraceæ, but to this class it seems to have very little affinity.

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ORD. XL. OLERACEÆ.

From *Olus*, Plants for food, pot-herbs.

SALSOLA KALI. PRICKLY SALT-WORT.

SYNONYMA. Kali spinosum cochleatum. *Bauh. Pin. p.* 289. Tragus sive Tragum Matthioli. *Park. Theat, p.* 1034. *Gerard Emac. p.* 1117. *Raii Hist. p.* 212. *Synop. p.* 159. *Moris Hist.* 5. *f.* 33. *f.* 11. Salsola Kali. *Huds. Ang. p.* 93. *Lightf. Scot. p.* 151. *Withering Bot. Arrang. p.* 257. *Flor. Dan. p.* 818.

Barilla, Natron, *Pharm. Lond.* Sal alkalinus fixus fossilis, *Pharm. Ed.* vulgo sal sodæ ex herba kali usta.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 311.

Ess. Gen. Ch. *Cal.* 5-phyllus. *Cor.* 0. *Caps.* 1-sperma. *Sem.* cochleatum.

Sp. Ch. S. herbacea decumbens, foliis subulatis spinosis scabris, calycibus marginatis axillaribus.

THE root is annual: the stem is angular, branched, smooth, decumbent, and rises about a foot in height: the leaves are long, narrow, awl-shaped, prickly, stand in ternaries upon the branches, and like the stem are frequently of a reddish hue: the flowers are sessile, axillary, whitish, yellowish, or of a rose colour: the calyx

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is membranous, and consists of five obtuse indented segments, each of which is furnished with a small tooth-like process at its base: it has no corolla, unless the calyx be considered as such: the five filaments are short, slender, inserted into the divisions of the calyx, and crowned with simple antheræ: the germen is globular, and supports two styles with recurved stigmata: the capsule is oval, one-celled, involved in the calyx, and contains a large spiral seed formed like a snail-shell. It is a native of Britain, and common on the sea shore, flowering in July and August.

The annexed figure of the Kali is taken from a specimen which grew in the Royal Garden at Kew, and therefore has more luxuriancy and beauty than it ever assumes in its wild state, where its humble appearance might justify the epithet Sea-weed, so contemptuously spoken of by the Latin Poet, "projecta vilior alga." Not only this, but various other plants, on being burned, are found to afford the fossile alkali, and some in a greater proportion than the Kali,[a] consequently have an equal if not a superior claim to a place in this work.

These are Salsola sativa, *Lin.* Salsola Souda, *Lofling.*[b] Kali hispanicum supinum annuum Sedi foliis brevibus, s. Kali d'Alicante, *Jussieu.*[c] It grows abundantly on that part of the Spanish coast which is washed by the Mediterranean Sea. This species is deservedly first enumerated by Professor Murray, as it supplies all the best Soda consumed in Europe, which by us is called Spanish or Alicant Soda, and by the Spanish merchants *Barrilla de Alicante.*

Salsola Soda, *Lin.* Kali majus, cochleato semine. *Bauh. Pin.* Le Salicor, *Marcorelle.*[d] *Jacquin Hort. Vind. tab.* 68. This spe-

[a] Why the name Kali is adopted in the London Pharmacopœia for the fixed vegetable alkali, we are unable to devise.

[b] *Spanska Resa, p.* 132.

[c] *Mem. de l'Acad. de Sc. de Paris,* 1717. *p.* 73. *sqq. tab.* 2.

[d] *Mem. pres. à l'Acad. &c. tom.* 5. *p.* 531.

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cies, which grows on the French Mediterranean coast, is much used in Languedoc for the preparation of this salt, which is usually exported to Sicily and Italy.

Salsola Tragus, *Lin.* affords an ordinary kind of Soda, with which the French frequently mix that made in Languedoc: this adulteration is also practised by the Sicilians, who distinguish the plant by the term selvaggia.[e]

Salicornia herbacea, *Lin. Flor. Dan. tab.* 303. Conf. *Baster, Opusc. subsec. tom.* 2. *p.* 107. *Pallas, Reise durch Russ. Reich. tom. i. p.* 479. Is common in salt marshes, and on the sea shore all over Europe. Linnæus prefers the Soda obtained from this plant to that of all the others;[f] but though the quantity of fossile alkali which it yields is very considerable, as a great portion of it is united with muriatic acid, it is mixed with much common salt.

Salicornia arabica, *Lin.* Mesembryanthemum nodiflorum, *Lin.* Plantago squarrosa, *Lin.* All these, according to Alpinus, afford this alkali. It has also been procured from several of the Fuci, especially F. vesiculosus, and distinguished here by the name Kelp.† Various other marine plants might also be noticed as yielding Barilla or Soda by combustion;‡ but the principal are confined to the genus Salsola and that of Salicornia. The Salsola Kali, on the authority of Rauwolf, is the species from which the salt is usually obtained in eastern countries.[g]

[e] Gronov. *Fl. orient. Rauwolfii, p.* 29.

[f] Nostratibus nulla aptior in hunc usum planta, quam dicta, *Mat. Med. p.* 36.

† The preparation of this is fully described by Borlase. See *Observations on the State of the Islands of Scilly, p.* 118.

‡ To these we may add Batis maritima, (Vide *Jacquin Hist. Stirp. Amer. p.* 127.) which on the coast of Carthagena is found to have a very salt taste, where it is prepared into soda, which is used for the purpose of making glass. The Carthaginians call this plant *barilla.*

[g] Alp. *Pl. Ægypt.*

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It is to be regretted, that the different kinds of Soda which are brought to European markets, have not been sufficiently analysed to enable us to ascertain with tolerable certainty the respective value of each; and indeed while the practice of adulterating this salt continues, any attempts of this kind are likely to prove fruitless: the best information on this subject is to be had from Jussieu,[h] Marcorelle,[i] Cadet,[k] Borlase,[l] and Sestini.[m] In those places where the preparation of Soda forms a considerable branch of commerce, as on the coast of the Mediterranean, seeds of the Salsola are regularly sown in a proper situation near the sea,[n] which usually shoot above ground in the course of a fortnight. About the time the seeds become ripe, the plants are pulled up by the roots, and exposed in a suitable place to dry, where their seeds are collected: this being done, the plants are tied up in bundles, and burned in an oven constructed for the purpose, where the ashes are then while hot continually stirred with long poles. The saline matter, on becoming cold, forms a hard solid mass, which is afterwards broken in pieces of a convenient size for exportation.

According to chemical analysis Soda generally contains a portion of vegetable alkali and neutral salts, as common salt, and sometimes vitriolated tartar, or Glauber salt, likewise liver of sulphur, and not unfrequently some portion of iron is contained in the mass; it is therefore to be considered as more or less a compound, and its goodness is to be estimated accordingly. The Spanish Soda, of the best sort, is in dark coloured masses, of a bluish tinge, very

[h] *L. c.*

[i] *L. c.* [k] Vide *Mem. de l'Acad. &c.* 1767. *p.* 387.

[l] *L. c.*

[m] *Lettre della Sicilia, tom.* 3. *p.* 58. 76.

[n] According to the experiments of Du Hamel, the further from the sea the seeds are sown, the less fossil alkali, and the more vegetable alkali the plants contain. Vide *Med. de l'Acad.* 1767. *p.* 233.

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ponderous, sonorous, dry to the touch, and externally abounding with small cavities, without any offensive smell, and very salt to the taste; if long exposed to the air, it undergoes a degree of spontaneous calcination. The best French Soda is also dry, sonorous, brittle, and of a deep blue colour, approaching to black. The Soda, which is mixed with small stones, which gives out a fetid smell on solution, and is white, soft, and deliquescent, is of the worst kind.*

The method of purifying this salt is directed in the London Pharm. under the article of Natron præparatum, and in the Edinburgh Pharm. under that of Sal alkalinus fixus fossilis purificatus: the pure crystals, thus formed of Alicant barilla, are colourless, transparent, lamellated, of a rhomboidal figure, and one hundred parts are found to contain twenty of alkali, sixteen of aerial acid, and sixty-four of water;° but upon keeping the crystals for a length of time, if the air be not excluded, the water evaporates, and they assume the form of a white powder. According to Imlin,[p] one ounce of water, at the temperature 62 of Fahr. dissolves five drams and fifteen grains of the crystals.‡ The same author also found that this salt preserved flesh from putridity longer than common salt, though not so long as the vegetable alkali. Natron has been thought useful in scrophulous disorders, but it is seldom given in its simple state.

In combination with vitriolic acid this alkali forms Glauber salt, or Natron vitriolatum; with nitrous acid, cubic nitre; with marine acid, common salt; with the sedative salt of Homberg, borax; with cream of tartar, Rochelle salt, or sel saignette.

To enter fully on the peculiar properties, or chemical qualities, of this alkali, would lead us too far, and is properly the province

* For this, and almost the whole on this subject, we are obliged to the late Professor Murray. See his *App. Med. vol.* 4.

° *Bergman in Scheffers.* [p] *Diss. de Soda.* §. 2.

‡ Kirwan says, 2, 5 times its weight of water at this temperature are required. *Min. p.* 176.

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of chemistry. It is in common use in the manufacture of glass and soap, and as the latter is an artical of the Materia Medica, we shall proceed to consider its medicinal effects.

All the Soaps, of which there are several kinds, are composed of expressed vegetable oils, or animal fats, united with alkaline laxivia.[q] The Sapo ex oleo olivæ et natro confectus of the London Pharm. or the Sapo albus hispanus of the Edinb. Pharm. (white Spanish soap) being made of the finer kinds of olive oil, is the best, and therefore preferred for internal use.

Soap was imperfectly known to the ancients. It is mentioned by Pliny as made of fat and ashes, and as an invention of the Galls.[r] Aretæus, and others, inform us, that the Greeks obtained their knowledge of its medical use from the Romans. Its virtues, according to Bergius, are detergent, resolvent, and aperient, and its use recommended in jaundice, gout, calculous complaints, and in obstructions of the viscera. The efficacy of soap, in the first of these diseases, was experienced by Sylvius,[s] and since recommended very generally by various authors who have written on this complaint; and it has also been thought of use in supplying the place of bile in the primæ viæ.[t] The utility of this medicine, in icterical cases, was inferred chiefly from its supposed power of dissolving biliary concretions, but this medicine has lost much of its reputation in jaundice, since it is now known that gall stones have been found in many, after death, who had been daily taking soap for several months and even years.[u] Of its good effects in urinary calculous affections, we have the testimonies of several,

[q] The acid soap of Cornette. *Mem. de la Soc. de Med. de Paris, t.* 3. *p.* 189. is so little known as scarcely to be considered an exception.

[r] *Lib.* 28. *c.* 12.

[s] *Oper. Med. lib.* 1. *cap.* 46.

[t] Heberden, *Med. Trans. vol.* 2. *p.* 166.

[u] Dr. Heberden, *l. c. Phil. Trans. vol.* 47. *p.* 472. *Whytt's Works, p.* 428. *sqq.* Bergius, *Vet. Acad. Handl.* 1777. *p.* 309.

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especially when dissolved in lime water, by which its efficacy is considerably increased; for it thus becomes a powerful solvent of mucus, which an ingenious modern author supposes to be the chief agent in the formation of calculi: it is however only in the incipient state of the disease that these remedies promise effectual benefit; though they generally abate the more violent symptoms where they cannot remove the cause. With Boerhaave, soap was a general medicine: for as he attributed most complaints to viscidity of the fluids, he, and most of the Boerhaavian school, prescribed it in conjunction with different resinous and other substances, in gout, rheumatism, and various visceral complaints. Soap is also externally employed as a resolvent, and gives name to several officinal preparations.

CHENOPODIUM VULVARIA. STINKING GOOSE-FOOT, Or, ORACHE.

SYNONYMA. Atriplex fœtida. *Pharm. Edinb.* *Bauh. Pin. p.* 119. Atriplex olida. *Gerard. Emac. p.* 327. *Raii Hist. p.* 198. Blitum fœtidum Vulvaria dictum. *Raii Synop, p.* 156. Atriplex olida sive sylvestris fœtida. *Park. Theat. p.* 749. Chenopodium caule diffuso, foliis obtuse lanceolatis. *Hal. Stirp. Helv. n.* 1577. Chenopodium olidum. *Curt. Flor. Lond.* Chenopodium Vulvaria. *Huds. Ang. p.* 107. *Lightf. Scot. p.* 149. *Withering. Bot. Arr. p.* 255.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 309.

Ess. Gen. Ch. *Cal.* 5-phyllus, 5-gonus. *Cor.* 0. *Sem.* 1, lenticulare, superum.

Sp. Ch. C. foliis integerrimis rhomboideo-ovatis, floribus conglomeratis axillaribus.

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THE root is annual: the stems are procumbent, channelled, branched, and grow from six to twelve inches in length: the leaves are numerous, entire, of an irregular rhomboidal form, or often egg-shaped, veined, of a mealy appearance, and stand alternately upon short footstalks: the flowers are very small, of a light green colour, and placed in clusters at the alæ of the leaves: the calyx consists of one pentagonal leaf, cut into five pointed concave divisions: there is no corolla: the five filaments are small, tapering, about the length of the segments of the calyx, and furnished with double round antheræ: the germen is orbicular, and supports two styles, terminated with obtuse stigmata: the seed is lenticular, and is inclosed by the calyx, which supplies the place of a capsule. It is usually found about old walls and rubbish, flowering in August.

This plant, in its recent state, has a nauseous taste, and a strong offensive smell, resembling that of putrid salt fish, and remaining long on the hands after touching the herb.* "It gives a strong impregnation to water both by infusion and distillation: the smell is extracted likewise by rectified spirit, and by this menstruum in some degree covered." This plant has been expunged from the Materia Medica of the London Pharmacopœia, but it is still retained in that of Edinburgh. Its virtues are ascribed to its remarkable fetor, from which it is inferred by Dr. Cullen to be a powerful antispasmodic, and especially recommended in hysterical affections.

Dr. Cullen says "it has been frequently employed in this "country with advantage; not however so frequently as might be "expected, as it is a plant, in its fresh state, not always ready at "hand, and in its dry state it loses all its sensible qualities. It "can only be employed therefore in its recent state, and the most "convenient formula is that of a conserve; and as it is not always "easy to reconcile our patients to it even in that state, it is not "employed so often as I could wish." *Mat. Med. vol. ii. p.* 365.

* Odoris virosi intolerabilis, ut qui vel attactu levi manus ita inficit, ut longo tempore vix possit elui. *Raii Hist. p.* 198.

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RUMEX HYDROLAPATHUM. WATER DOCK.

SYNONYMA. Hydrolapathum. *Pharm. Edinb.* Lapathum aquaticum, folio cubitali. *Bauh. Pin. p.* 116. Hydrolapathum magnum. *Gerard. Emac. p.* 389. Hydrolapathum majus. *Park. Theat. p.* 1225. *Raii Hist. p.* 171. *Synop. p.* 140. §. 1. Lapathum foliis longè lanceolatis, paniculis densissimus. *Hall. Stirp. Helv. n.* 1588. R. Hydrolapathum. *Hudson. Flor. Ang. p.* 154. *Withering. Bot. Arr. p.* 374. *Relhan. Flor. Cant. p.* 149.

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 451.

Ess. Gen. Ch. *Cal.* 3-phyllus. *Petala* 3, conniventia. *Semen* unicum triquetrum.

Sp. Ch. R. floribus hermaphroditis: valvulis integris graniferis, foliis lanceolatis acutis. *Hudson, l. c.*

THE root is perennial, large, thick, externally black, internally whitish: the stem is erect, channelled, branched, green, and rises about five feet in height: the upper leaves are long, narrow, and on the flower-spikes linear and pointed; those at the bottom of the stem are near a foot and a half in length, of a narrow ovate form, somewhat indented at the edges, and stand upon long strong channelled footstalks: the flowers are numerous, and hang in whorled spikes upon slender peduncles: the calyx is divided into three narrow pointed permanent segments: the corolla consists of three petals, which are ovate, narrow, pointed: the stamina are six, short, slender, and furnished with erect double antheræ: the germen is turban-shaped, triangular, and supports three reflexed styles, terminated by rough glandular stigmata: the capsule is formed of the three petals, which by approaching each other assume a triangular form, and in this state are called *valves;*

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these are very large, ovate, pointed, slightly notched towards the base, and furnished with an oblong grain, extending down the middle of each valve: the seed is solitary, ovate, triangular. It is a native of England, growing in ditches, pools, and rivers, and flowers in July and August.

The Hydrolapathum of the Edinburgh Pharmacopœia is referred to the R. aquaticus of Linnæus, which is supposed to be a different species from the Hydrolapathum of Mr. Hudson,[a] though the same synonyms are ascribed to both. The plant here represented, which was found in the river Rodon, near Woodford Bridge, by having toothed valves, does not agree with the specific characters given by either of these authors; but it seems to correspond exactly with the description of it subjoined by Dr. Withering.[b]

The root, which is the part of this plant directed for medicinal use, has a strong austere taste, and readily strikes a black colour to a solution of ferrum vitriolatum, and yields its active matter both to water and to rectified spirit.

Many of the Lapatha[c] were formerly officinal herbs, of which the Water Dock has been esteemed to be the most efficacious, and by the Edinburgh College is still retained in the Materia Medica: the leaves, which manifest considerable acidity, are said to possess a laxative quality, and have therefore been used to obviate costiveness: the roots are strongly astringent, and have been much employed both externally and internally for the cure of scurvy;[d] especially when the gums are spongy, and frequent hæmorrhages supervene. It is also recommended in various other cutaneous

[a] *L. c.* [b] *L. c.*

[c] From λαπαζω, evacuo λαπτω, idem. Alston.

——— Si dura morabitur alvus,
Mitulus & viles pellent obstacula conchæ
Et Lapathi brevis herba. HORAT. SAT. 4. lib. 2. v. 27.

[d] Linnæus speaks highly of its use. Vide *Amœn. vol.* 4. *p.* 38. *Flor. Suec. p.* 118. And in *Lind's Treatise on the Scurvy, p.* 264.

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defœdations, and in visceral obstructions: and in order to give the Hydrolapathum additional importance, Muntingius has taken great pains to prove that it is the *Herba Britannica* of the ancients;[c] but many physicians still think this root does not peculiarly differ from other astringents, and are sceptical enough to place no faith in the great virtues ascribed to it by Muntingius and Sir John Hill.

[c] *Diss. Hist. Med. de vera herba Britannica.* See *Dios. l.* 4. *c.* 2. *Plin. lib.* 25. *c.* 3.

The powdered root is said by Murray to be an excellent dentrifice. *App. Med. vol.* 3. *p.* 344.

RUMEX ACETOSA. COMMON SORREL.

SYNONYMA. Acetosa. *Pharm. Lond. & Edinb.* Acetosa pratensis. *Bauh. Pin. p.* 114. Oxalis crispa. *J. Bauh. ii. p.* 990. Oxalis seu Acetosa. *Gerard. Emac. p.* 396. Acetosa vulgaris. *Park. p.* 742. Lapathum acetosum vulgare. *Raii Synop. p.* 148. *Raii Hist. p.* 178. Lapathum sexubus distinctis, foliis sagittatis, hamis retrorsum porrectis. *Hal. Stirp. Helv. n.* 1597. R. Acetosa. *Withering. Bot. Arrang. p.* 376. *Relhan Flor. Cant. p.* 149. *Hudson's Ang.* 156.

Class Hexandria.* *Ord.* Trigynia. *Lin. Gen. Plant.* 451.

Ess. Gen. Ch. *Cal.* 3-phyllus. *Petala* 3, conniventia. *Sem.* 1, triquetrum.

Sp. Ch. R. Flor. dioicis, fol. oblongis sagittatis.

THE root is perennial, slender, long, and fibrous: the stalk is erect, channelled, branched at the top, partially of a purplish red colour, and usually rises from one to two feet in height: the

* This plant, according to the strictness of methodical system, ought to belong to the class Dioecia, as the flowers are distinctly male and female in different plants: our figure represents the former.

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radical leaves are narrow, oblong, arrow-shaped, of a bright green colour, and stand upon long footstalks, but those on the stem are without footstalks, and placed alternately: the flowers are produced in terminal branched spikes, partly tinged of a reddish colour, and stand upon short slender peduncles: the calyx is composed of three oval segments: the corolla consists of three petals, shaped like the divisions of the calyx: the six filaments are short, slender, and furnished with erect double antheræ: the germen is triangular, and supports three simple reflexed styles, with bearded stigmata: the seeds are naked, single, and of a triangular shape. It is common in meadows and pastures, and flowers in June.

Some writers have referred this plant to the Lapathum quartum[a] of Dioscorides, and to the Lapathum sylvestre, quod alii oxalidem appellant, of Pliny.[b] But as the word ὀξὺ has been indiscriminately used both to signify sharp, with respect to the taste of a plant, and in relation to the form of its leaves, there may be a doubt whether those authors have done right, in exclusively applying it in the former sense as in the name Acetosa.—The leaves of common Sorrel have an agreeable acid taste, like that of the Oxalis Acetosella, or Wood-sorrel, which we have before described; and as they are medicinally employed for the same purposes, what has been already said of that plant will in a great measure apply to this; which from being easily procured in great abundance may be conveniently substituted for it. Sorrel, taken in considerable quantity, or used variously prepared as food, will certainly be found of important advantage where a refrigerant and antiscorbutic regimen is required;[c] and we are told by Linnæus, that the Laplanders experience a serum acetosatum to be in this respect an useful and pleasant diet.[d]

[a] *L. ii. cap.* 108. [b] *L. xx. cap.* 21.

[c] See Morin in *Hist. de l'Ac. des Sciences*, 1708. p. 52. Barthol. *Act. Havn.* 1671, p. 35. Boerhaave *Hist. Plant. L. B. P. ii.* p. 540.

[d] *Flor. Lapp.* p. 94.

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RHEUM PALMATUM. OFFICINAL RHUBARB.

SYNONYMA. Rhabarbarum. *Pharm. Lond. & Edin.* Rhabarbarum verum Med. *Hope, l. inf. cit.* Rheum *palmatum;* fol. palmatis acuminatis. *Lin. Spec. Plant. p.* 281. Conf. cel. Hope descriptionem in *Act. Philosoph. Londin. vol. 55. c. l.* Linnæi. jun. in *Pl. rarior. hort. Upsal.* fasc. 1. item cl. Sandemani in *Diss. de Rheo palmato;* et Milleri in ejus *Illustr. Syst. Sex.*

Class Enneandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 506.

Ess. Gen. Ch. Cal. 0. *Cor.* 6-fida, persistens. *Sem.* 1, triquetrum.

Sp. Ch. R. foliis palmatis acuminatis scabriusculis: sinu baseos dilatato, petiolis supra obsolete sulcatis margine rotundatis. *Aiton. Hort. Kew.*

THE root is perennial, thick, of an oval shape, and sends off long tapering branches; externally it is brown, and internally of a deep yellow colour: the stalk is erect, round, hollow, jointed, sheathed, slightly scored, branched towards the top, and rises to the height of six or eight feet: the radical leaves are numerous, large, rough, of a roundish figure, and deeply cut into lobes, and irregularly pointed segments, and stand upon long smooth round footstalks: the leaves which proceed from the stalk are placed at the joints, which they supply with membranous sheathes, and are successively smaller towards the upper part of the stem: the flowers terminate the branches, which they surround in numerous clusters, forming a kind of spike, and appear in April and May: the corolla divides into six obtuse segments, which are of a greenish white colour, and alternately smaller: the calyx is wanting: the filaments are nine, slender, about the length of the corolla, and furnished with oblong double antheræ: the style is very short, and ter-

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minated by three reflected stigmata: the germen becomes a triangular seed, with membranous margins of a reddish colour. It is a native of Tartary in Asia.

It was not until the year 1732 that naturalists became acquainted with any plant which seemed to afford the Rhabarbarum Officinale,[a] when some plants, received from Russia by Jussieu at Paris, and Rand at Chelsea,[b] were said to supply this important desideratum, and as such were adopted by Linnæus, in his first edition of the Species Plantarum, under the name of Rheum Rhabarbarum. This however was not very generally received as the genuine Rhubarb plant; and with a view to ascertain this matter more completely, Kauw Boerhaave procured from a Tartarian rhubarb merchant the seeds of those plants, whose roots he annually sold, and which were admitted at Petersborough to be the true rhubarb: these seeds were soon propagated, and were discovered by De Gorter to produce two distinct species, viz. the R. Rhabarbarum of Linnæus, or as it has since been called R. undulatum, and another species, a specimen of which was presented to Linnæus, who declared it to be a new one, and was first mentioned in the second edition of the Sp. Plantarum in 1762, by the name of R. palmatum, (the plant we have figured). Previous to this time, De Gorter had repeatedly sent its seeds to Linnæus,[c] but the young plants which they produced constantly perished; at length

[a] The Rheum Rhaponticum of Linnæus, or Rhaponticum folio Lapathi majoris glabro of C. Bauhin, is generally supposed to be the Rhabarbarum of the ancients; "Alpinus aliique putant esse Pα vel Pῆον veterum, cujus radicem usurparunt. *(Vide Dioscorid. Mat. Med. lib. 3. cap. 2.)* Ipse Alpinus sibi circa annum 1610, stirpem ex Thracia procuravit, et hæc Patavio Venetiam primo, dein inde in Angliam ad Parkinsonium (Theat. Bot. p. 157.) prevenit." Murray Ap. Med. vol. 4. 354. It is well known that the ancient rhubarb had not the purgative power of the modern.

[b] Seeds of this species were also sent to Miller from Boerhaave at Leyden, by the title of "Rhabarbarum verum Chinense." See his Gard. Dict.

[c] See the letters between De Gorter and Linnæus, by Nozeman, in *Verhandelingen van het Genootschap to Rotterdam, vol.* 1. p. 455, and cited by Murray.

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he obtained the fresh root, which succeeded very well at Upsal, and afterwards enabled the younger Linnæus to describe this plant[d] ann. 1767. But two years antecedent to this, Dr. Hope's account of the Rheum palmatum, as it grew in the botanic garden near Edinburgh, had been read before the Royal Society at London; and of the great estimation in which this plant was held by him, we have the following proof: "From the perfect similarity of this root with the best foreign rhubarb in taste, smell, colour, and purgative qualities, we cannot doubt of our being at last possessed of the plant which produces the true rhubarb, and may reasonably entertain the agreeable expectations of its proving a very important acquisition to Britain."[e] But from the relation we have given, it appears that the seeds of both R. undulatum, and R. palmatum, were transmitted to Petersborough, as those of the true Rhubarb: we are therefore to conclude, that the former species has an equal claim to this importance with the latter;† and from further enquiries made in Russia, there is the best authority for believing that the R. compactum also affords this very useful drug.[f] The seeds of the Rheum Palmatum were first introduced

[d] *Vide Plant. rarior. hort. Upsal. fasc.* 1.

[e] See *Philosoph. Trans.* for the year 1765.

† Bergius says, "Rheum palmatum producit *Rhabarbarum* in officinis *Sibiricum* appellatum; certe e seminibus a Bucharis e montosis Tibeti in Russiam apportatis, & postea satis hocce Rheum palmatum enatum est." (Vide Pallas *Reise*, &c. vol. 3. p. 157) "*Rhabarbarum* vero *Chinense* ex alia specie Rhei desumptum esse videtur." (Vide Georgi *Reise*, &c. vol. 1. p. 211.)

[f] The roots of the Rheum Palmatum were considered to be the best rhubarb, "donec viri celeberrimi, Pallas et Georgi, qui nuperrime in rem naturalem Russiæ itineribus suis inquisiverunt, scrupulos novos excitarent. Nam percontanti ill. Pallas Buchari, folia Rhei palmati sibi ignota declararunt, describentes contra ea folia veri Rhabarbari rotunda et in margine paucis modo incisionibus notata; unde concludit iste Rheum compactum potius fuisse intellectum. Huc pertinent supra ex cl. Georgi itinerario dicta (V. p. 360) de Cosacco quodam, qui Rheum undulatum pro vera specie significavit. Uterque etiam arbitratur, Rheum undulatum in montibus australioribus apertioribus et sicciorибus, quales Tibetici sunt,

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into Britain in 1762,* by Dr. Mounsey, (who sent them from Russia) and were supposed to be a part of those already mentioned; and since their prosperous cultivation by the late Professor of Botany at Edinburgh, the propagation of this plant has been gradually extended to most of our English gardens, and with a degree of success which promises in time to supersede the importation of the foreign root.[s]

Two sorts of rhubarb roots are usually imported into this country for medical use, viz. the Chineze,‡ and the Turkey rhubarb;[h] the

præstantiorem posse radicem ferre quam montes frigidi et humidi Sibiriæ." *Murray l. c.* Pallas *Reise*, vol. 3. p. 156. Georgi *Reise*, vol. 1. p. 210. The seeds of the compactum were sent to Miller "from Petersborough, for the true Tartarian rhubarb, and were gathered from the plants growing on the spot, where the rhubarb was taken up; and upon trial of the roots, they are found to be as good as the foreign rhubarb." See his Dict. 6th edition.

* In the Hort. Kew. this plant is said to have been first cultivated in England by Miller in 1768.

[s] The Society for Encouragement of Arts, Manufactures, and Commerce, has laudably contributed to this national object, of which their Transactions published bear sufficient evidence.

‡ Colitur hoc a Chinensibus, præcipue in provincia Xensi sub nomine *Taihoang*. Bergius M. M. p. 332.

[h] "Olim, quum commercium in orientalibus regionibus per Natoliam fieret, Rhabarbarum ex portibus Turcicis ad Europæas transferebatur, unde nomen Rhabarbari Turcici." Murray, l. c. Mr. Bell (in his *Travels from St. Petersburg to divers parts of Asia*) says, that the best rhubarb grows plentifully on a long chain of mountains in Tartary, which extend from Selin to the lake Koko-nor near Tibet. At a proper age the roots are taken up, which, according to Pallas, is in April or May; but in Bell's account, this is said to be done in the autumn: they are then to be cleaned, the smaller branches cut off, and the larger roots divided into pieces of a proper size; after this they are perforated, and suspended to dry either upon the neighbouring trees, or in tents, or as some have reported, to the horns of sheep. The proper exsiccation of this root is certainly attended with considerable difficulty, and the cultivators of rhubarb in this country have not yet agreed in what mode this is to be best accomplished. The recent root in this process, according to the experiment of Sir William Fordyce, loses nearly nine-tenths of its weight." See *Trans. of the Society for Encouragement of Arts, &c.*

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first is in oblong pieces, flattish on one side, and convex on the other; compact, hard, heavy, internally of a dull red colour, variegated with yellow and white, and when recently powdered appears yellow, but on being kept becomes gradually redder. The second is the most valuable, and is brought to us in roundish pieces, with a large hole through the middle of each; it is more soft and friable than the former sort, and exhibits, when broken, many streaks of a bright red colour. "The marks of the goodness of rhubarb are, the liveliness of its colour when cut; its being firm and solid, but not flinty or hard; its being easily pulverable, and appearing when powdered of a fine bright yellow colour; its imparting to the spittle, on being chewed, a deep saffron tinge, and not proving slimy or mucilaginous in the mouth; its taste is subacrid, bitterish, and somewhat styptic; the smell lightly aromatic."

The purgative qualities of rhubarb are extracted more perfectly by water than by rectified spirit: the root remaining after the action of water is almost if not wholly inactive; whereas after repeated digestion in spirit, it proves still very considerably purgative. The virtue of the watery infusion, on being inspissated by a gentle heat, is so much diminished, that a dram of the extract is said to have scarcely any greater effect than a scruple of the root in substance; the spirituous tincture loses less; half a dram of this extract proving moderately purgative. "The qualities of "this root are that of a gentle purgative, and so gentle that it is "often inconvenient by reason of the bulk of the dose required, "which in adults must be from half a dram to a dram. When "given in a large dose, it will occasion some griping, as other "purgatives do; but it is hardly ever heating to the system, or "shews the other effects of the more drastic purgatives. The "purgative quality is accompanied with a bitterness, which is "often useful in restoring the tone of the stomach when it has "been lost; and for the most part its bitterness makes it sit better "on the stomach than many other purgatives do. Its operation "joins well with that of neutral laxatives; and both together "operate in a lesser dose than either of them would do singly.

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" Some degree of stipticity is always evident in this medicine, " and as this quality acts when that of the purgative has ceased, " so in cases of diarrhœa, when any evacuation is proper, rhubarb " has been considered as the most proper means to be employed. " I must however remark here, that in many cases of diarrhœa, " no further evacuation than what is occasioned by the disease is " necessary or proper.—The use of rhubarb in substance for keeping the belly regular, for which it is frequently employed, is by " no means proper, as the astringent quality is ready to undo " what the purgative had done; but I have found that the purpose mentioned may be obtained by it, if the rhubarb is chewed " in the mouth, and no more is swallowed than what the saliva " has dissolved. And I must remark in this way employed it is " very useful to dyseptic persons. Analagous to this, is the use " of rhubarb in a solution, in which it appears to me, that the " astringent quality is not so largely extracted as to operate so " powerfully as when the rhubarb was employed in substance."[k]

The officinal preparations of this drug are, a watery and a vinous infusion, a simple and a compound tincture. It is also an ingredient in different compositions, as the Elixir ex aloe et rheo, pilulæ stomachicæ, and some others.

[k] We have transcribed this account from Dr. Cullen, who has paid more than usual attention to this article. See *Mat. Med.* vol. 2. p. 529.

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POLYGONUM BISTORTA. GREATER BISTORT, Or, SNAKEWEED.

SYNONYMA. Bistorta. *Pharm. Lond. & Edinb.* Bistorta. major. *Gerard. emac.* 399. Bistorta major vulgaris. *Park. Theat.* 391. Bistorta major rugosioribus foliis. *J. Bauh.* iii. 538. Bistorta radice minus intorta. *Bauh. Pin.* 192. *Raii Synopsis,* 147. *Raii Hist.* 186. *spec.* 1. Polygonum radice lignosa contorta, spica ovata, foliorum petiolis alatis. *Hal. Stirp. Helv.* No. 1558. *Withering. Bot. Arrang.* 406. *Flor. Dan.* 421. *Curtis Flor. Lond.*

Class Octandria. *Ord.* Trigynia. *L. Gen. Plant.* 495.

Ess. Gen. Ch. *Cor.* 5-partita, calycina. *Sem.* 1, angulatum.

Sp. Ch. P. caule simplicissimo monostachyo, foliis ovatis in petiolum decurrentibus.

THE root is about the thickness of a finger, perennial, crooked, rugose, of a firm texture, and of a reddish or flesh colour, covered with a brown rind, and furnished with numerous small fibres and creepers: the stalk is simple, bending, solid, round, smooth, swelled at the joints, enclosed by the sheaths of the stipulæ, and is a foot and a half or two feet in height; the radical leaves are ovalish, or rather heart-shaped, pointed, and stand upon long winged footstalks; the upper leaves embrace the stem, and are narrower and undulated. The flowers stand upon short footstalks, and terminate the stalk in an oblong close spike; the corolla is small, of tubular appearance, and divided into five oval obtuse segments, of a reddish white colour, and at the base supplied with several nectarious glands; the bracteal, or floral leaves, are membranous, withered, and each encloses two flowers; the filaments are tapering, white, longer than the corolla, and the antheræ are

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purple; the styles are three, about the length of the stamina; the stigmata are small and round; the germen is triangular, of a red colour, and the seeds are brown and remarkably glossy.

Bistort [a] is a native of Britain;* it grows in moist meadows,[b] and flowers in May and September. Every part of the plant manifests a degree of stipticity to the taste, and the root is esteemed to be one of the most powerful of the vegetable astringents. Lewis says, that this "astringent matter is totally dissolved both by water and rectified spirit; the root, after the action of a sufficient quantity of either menstruum, remaining insipid: on inspissating the tinctures, the water and spirit arise unflavoured, leaving extracts of intense stipticity."[c]

The root of Bistort was formerly considered to be alexipharmic and sudorific; but its uses seem only to be derived from its styptic powers; it is therefore chiefly indicated in hæmorrhages and other immoderate fluxes. Dr. Cullen observes, that the Bistora, "both by its sensible qualities, and by the colour it gives with green vitriol, and by the extracts it affords, seems to be one of the strongest of our vegetable astringents, and is justly commended for every virtue that has been ascribed to any other. As such we have frequently employed it, and particularly in intermittent fevers, and in larger doses than those commonly mentioned in Materia Medica writers. Both by itself, and along with gentian, we have given it to the quantity of three drams a day."[d] The dose of the root in substance is from a scruple to a dram.

[a] Bistora, *quasi* bis torta, twice twisted, or wreathen, is a modern name. Alston M. M. i. 339. "Radix est serpentis modo intorta." Whence it was called Serpentaria, Colubrina, and Dracunculus. And it has been variously considered to be the Oxylapathum, Britannica, and Limonium of the ancients. Vide Bauh. Pin. 192. Matth. 946.

* In the North of England this plant is known by the name of Easter-Giant, and the young leaves are eaten in herb pudding.

[b] It grows about *Battersea*, and by the side of *Bishop's Wood* near *Hampstead*. Curt. Flor. Lond. [c] Mat. Med. 154. [d] Mat. Med. ii. 40.

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LAURUS CINNAMOMUM. CINNAMON-TREE.

SYNONYMA. Cinnamomum. *Pharm. Lond. & Edin.* Cassia cinnamomea. *Herm. Lugd. Bat.* 129. t. 655. *Pluk. Almag.* 88. Cinnamomum foliis latis ovatis frugiferum. *Burm. Zeyl.* 62. *t.* 27. Arbor canellifera Zeylanica, cortice acerrimo seu præstantissimo, qui Cinnamomum Officinarum. *Breyn. Prod.* ii. 17. Cinnamomum sive Canella Zeylanica. *Bauh. Pin.* 408. Canella seu Cinnamomum vulgare. *Bauh. Hist.* 1446. The Cinnamon-tree of Ceylon. *Rait Hist.* 1561. Laurus Cinnamomum. *Jacq. Americ.* p. 59. t. 117. Rasse Coronde. *Zeylonarum.*

Class Enneandria. *Ord.* Monogynia. *L. Gen. Plant.* 509.

Ess. Gen. Ch. Cal. 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis trinerviis ovato-oblongis: nervis versus apicem evanescentibus.

THIS valuable and elegant laurel rises above twenty feet in height; the trunk extends about six feet in length, and one foot and a half in diameter; it sends off numerous branches, which are covered with smooth bark, of a brownish ash colour; the leaves stand in opposite pairs upon short footstalks; they are of an ovalish oblong shape, obtusely pointed, entire, firm, from three to five inches long, of a bright green colour, and marked with three whitish longitudinal nerves; the common peduncles grow from the younger branches, and after dividing, produce the flowers in a kind of paniculated umbel. The petals are six, oval, pointed, concave, spreading, of a greenish white or yellowish colour, and the three outermost are broader than the others; the filaments are nine, shorter than the corolla, flattish, erect, standing in ternaries, and, at the base of each of the three innermost, two small round

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glands are placed; the antheræ are double, and unite over the top of the filament; the germen is oblong, the style simple, of the length of the stamina, and the stigma is depressed and triangular: the fruit is a pulpy pericarpium, resembling a small olive, of a deep blue colour inserted in the corolla, and containing an oblong nut.

The true Cinnamon-tree is a native of Ceylon, where, according to Ray, it grows as common in the woods and hedges as the hazel with us, and is used by the Ceylonese for fuel and other domestic purposes. Its cultivation was first attempted in this country about the year 1768 by Mr. Philip Miller, who observes, "that the Cinnamon and Camphire trees are very near akin," and that if the berries of these trees were procured from the places of their growth, and planted in tubs of earth, the plants might be more easily reared than by layers, which require two years or more before they take root. We wish, however, to caution those who make the trial, to plant this fruit immediately upon being obtained from the tree, for Jacquin remarks, "Cæterum ad sationem transportari semina nequeunt, quum paucos intra dies nuclei corrumpantur, atque effœti evadunt."[a] Ray seems to think that the Cassia cinnamomea of Herman, the Cassia lignea, and the Cassia fistula of the ancient Greek writers, were the same, or varieties of the same species of plant.[b] But an inquiry of more importance is, whether the Cinnamon of Ceylon is of the same species as that

[a] Jacquin's Americ. At Ceylon, "it is particularly owing to a certain kind of Wild Doves, which, from their feeding on the fruit of the Cinnamon-tree, they call *Cinnamon-eaters*, that these trees grow so plentifully in this island." A Seba Ph. Trans. vol. 36. p. 105.

[b] It is necessary to observe, that the ancient signification of these names is very different from the modern. The younger branches of the tree, with their bark covering them, were called by the Greek writers κιναμωμον Cinnamomum, and sometimes ξυλοκασία, or Cassia lignea; but when they were divested of their bark, which by its being dried became tubular, this bark was denominated κασία συριγξ, or cassia fistula.—But as in process of time the wood of this tree was found useless, they stripped the bark from it, and brought that only; which custom prevails at this day. See account of the Cinnamon-tree by Dr. Watson, Phil. Trans. vol. 47.

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growing in Malabar, Sumatra, &c. differing only through the influence of the soil and climate in which it grows, or from the culture or manner of curing the Cinnamon. Mr. White and Mr. Combes, who have investigated this subject with considerable attention, agree with Gracias, and determine this question in the affirmative.*

* According to many botanical writers the principal marks of distinction of these plants are to be found in the leaf, which in the Cinnamon of Ceylon is more oval and less pointed than the others, and the nerves do not reach to the margin; while in the Cinnamon of Sumatra they are said to be continued to the extremity of the leaf.—Respecting the bark it is well known to be less warm and grateful to the taste, manifesting that viscosity on being chewed which is never observable in the Ceylon Cinnamon. But Mr. White, with the assistance of Dr. Matty, carefully compared the specimens of the Cinnamon-tree, (commonly called Cassia) which he had from Sumatra, with those from Ceylon, preserved in the British Museum, which were the collections of Boerhaave, Courteen, Plukenet, and Petiver, and found the difference so inconsiderable, as fully to justify his opinion. In Murray's edition of the Systema Veg. we find superadded to the description of Cassia, "Esse modo Varietatem præcedentis, (Cinnam.) foliis angustioribus et obtusioribus, Thunberg in Act. Scockh. 1780. p. 56. The difference of the bark itself it thus stated by Ray, "Officinæ nostræ Cassiam ligneam a Cinnamomo seu Canella distinctam faciunt, Cassiam Cinnamomo crassiorem plerumque esse colore rubicundiorem, substantiâ duriorem, solidiorem & compactiorem, gustu magis glutinoso, odore quidem & sapore Cinnamomum aptius referre, tamen Cinnamomo imbecilliorem & minus vegetam esse ex accurata observatione. Tho. Johnson." But Mr. White says, "From the specimens I shall now produce, it will most plainly appear, that these differences are merely accidents, arising from the age of the Canella, the part of the tree from whence it is gathered, and from the manner of cultivating and curing it." And he observes, "If any conjecture can arise from hence, it may be, that the Cinnamon of Ceylon was formerly, as well as that of Sumatra and Malabar, called Cassia; but that the Dutch writers, being acquainted with the excellent qualities which the ancients ascribed to their Cinnamon, chose to add the name Cinnamon to that of Cassia; and in process of time they have found the name of Cinnamon more profitable than that of Cassia, by which we chuse to call our Canella, to our national loss of many thousands a year." (Phil. Trans. vol. 50. p. 887.) How far the reasoning of Mr. White is really well founded, we leave to the judgement of others; it may however be remarked, that his opinion is not a little supported, from the consideration that the Cinnamon plant varies exceedingly, even in the island of Ceylon, where Burman collected nine different sorts, and Seba actually describes ten.

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The use of the Cinnamon-tree is not confined to the bark, for it is remarkable that the leaves, the fruit, and the root, all yield oils of very different qualities, and of considerable value: that produced from the leaves is called Oil of Cloves, and Oleum Malabathri: that obtained from the fruit is extremely fragrant, of a thick consistence, and at Ceylon is made into candles, for the sole use of the king; and the bark of the root not only affords an aromatic essential oil, or what has been called Oil of Camphor, and of great estimation for its medical use, but also a species of camphor, which is much purer and whiter than that kept in the shops.

The spice, so well known to us by the name of Cinnamon, is the inner bark of the tree;[c] and those plants produce it in the most perfect state, which are about six or seven years old, but this must vary according to circumstances. Seba says, "Those which grow in the vallies, where the ground is a fine whitish sand, (and there are many such vallies in the island of Ceylon) will in five years time be fit to have the bark taken off. Others, on the contrary, which stand in a wet slimy soil, must have seven or eight years time to grow before they are ripe enough." And the bark of those trees, which stand in a very dry soil, and much exposed to the sun, has often a bitterish taste, which Seba attributes to "the camphor being by the sun's rays rendered so thin and volatile, that it rises up and mixes with the juice of the tree." The bark, while on the trees, is first freed of its external greenish coat; it is then cut longitudinally, stripped from the trees, and dried in sand, till it becomes fit for the market, when it is of a reddish yellow, or pale rusty iron colour, very light, thin, and curling up into quills or canes, which are somewhat tough, and of a fibrous texture. It is frequently mixed with cassia, which is distinguished from the

[c] "If you taste the inner membrane of the bark when fresh taken off, you will find it of most exquisite sweetness, whereas the outward part of the bark differs but very little in taste from the common trees; but in drying, the oily and agreeable sweetness communicates and diffuses itself throughout the whole outward part." Seba l. c.

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Cinnamon by its taste being remarkably slimy. This bark is one of the most grateful of the aromatics; of a very fragrant smell, and a moderately pungent, glowing, but not fiery taste, accompanied with considerable sweetness, and some degree of astringency. Its aromatic qualities are extracted by water in infusion, but more powerfully by it in distillation, and in both ways also by a proof spirit applied. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach than most other substances of this class: by its astringent quality, it likewise corroborates the viscera, and proves of great service in several kinds of alvine fluxes, and immoderate discharges from the uterus. The aromatic principle is an essential oil, which is obtained by distilling at once large quantities of this spice, or rather cassia, which is usually employed in these operations; and the oil thus separated is so extremely pungent, that on being applied to the skin it produces an eschar: in doses of a drop or two diluted, by means of sugar, mucilages; &c. it is one of the most immediate cordials and restoratives in languors, singultuses, and all debilities. This oil is imported from the East-Indies, and a tincture, a simple, and a spirituous water, are directed by the Pharmacopœias to be prepared from this spice.

LAURUS SASSAFRAS. SASSAFRAS TREE.

SYNONYMA. Sassafras. *Pharm. Lond. & Edinb.* Cornus mas odorata, folio trifido, margine plano, Sassafras dicta. *Pluk. Alm.* 180. *Catesb. Carolin.* 1 p. 55. Sassafras sive lignum pavanum. *J. Bauh.* i. 483. Sassafras, arbor ex Florida, ficulneo folio. *Bauh. Pin.* 431. Sassafras. *Gerard. Emac.* 1525. *Park. Theat.* 1606. *Raii Hist.* ii. 1568. Laurus foliis integris trilobisque. *Trew. Ehret.* t. 69. *Duham. Arb.* 1. p. 350. *Kalm. Canad.* 2. p. 270.

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Class Enneandria. *Ord.* Monogynia. *L. Gen. Plant.* 503.

Ess .Gen. Ch. Cal. 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. fol. trilobis integrisque.

THE Sassafras tree rises sometimes to the height of twenty or thirty feet,* and is about twelve or fifteen inches in diameter, but it is commonly of much less growth, and is divided towards the top into several crooked branches: the bark of the young shoots is smooth and green, of the old trunks it is rough, furrowed, and of a light ash colour: the leaves vary both in form and size, some being oval and entire, others cut into two or three lobes; they are all of a pale-green colour, veined, downy on the under side, and placed alternately upon long footstalks: the flowers are produced in pendent spikes or panicles, which spring from the extremities of the shoots of the preceding year; they appear in May and June, and are generally male and female upon different trees: the corolla is divided into six leaves, which are narrow, convex, and of a dingy yellow colour: the male flowers have nine [a] filaments, crowned with round antheræ; the bracteæ are linear, and placed at the base of the pedicles; there is no calyx, and the berries produced by the female flowers are similar in shape and colour [b] to those of the cinnamon.—See plate.

The Sassafras tree is a native of North America, [c] and appears to

* Vide Marshall's Arbustrum Americanum, p. 75.

[a] Miller says eight, but in the specimen figured, which was procured from a male tree in the King's garden at Kew, nine stamina were observed in all the flowers.

[b] Marshall, l. c.

[c] "G. Piso Monardis descriptioni circa lignum Sassafras non acquiescendum esse ait, siquidem affirmat Sassafras Floridæ lignum decorticatum vix ullius dignitatis esse, cùm Brasiliense eximiæ dignitatis & virtutis habeatur, atque à cortice liberatum in aliquot annos immune servatur." Vide Raii Hist. p. 1569.

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have been cultivated in England sometime before the year 1633, for in Johnson's edition of Gerard, he says, " I have given the figure of a branch taken from a little (Sassafras) tree, which grew in the garden of Mr. Wilmote at Bow."‡ It is said that the Sassafras tree was first discovered by the Spaniards in 1538, when they possessed themselves of Florida;[d] and the wood was first imported into Spain about the year 1560, where it acquired great reputation for curing various diseases.[e] It is now usually imported here in long straight pieces, very light, of a spongy texture, and covered with a rough fungous bark. It has a fragrant smell, and a sweetish aromatic subacrid taste: the root, wood, and bark, agree in their medical qualities, and are all mentioned in the pharmacopœias; but the bark is the most fragrant, and thought to be more efficacious than the woody part, and the small branches are preferred to the large pieces. " The virtues of Sassafras are extracted totally by spirit, but not perfectly by water. Distilled with the latter it yields a fragrant essential oil of a penetrating pungent taste, and so ponderous as to sink in water. Rectified spirit extracts the whole taste and smell of Sassafras, and elevates nothing in evaporation; hence the spirituous extract proves the most elegant and efficacious preparation, as containing the whole virtue of the root." Sassafras, according to Bergius, is " sudorifera, diuretica, purificans," and useful in " rheumatism, cutaneous diseases, and ulcers." Lewis says that it is used as a mild corrobo-

‡ This account differs from that given by Ray, who says, that — " Tho. Johnsonus in Gerardo suo emaculato: qui Sassafras arbusculæ â se visæ in horto D. Guliel. Coys Stratfordiæ propé Londinum ramulum describit & depingit, &c. Hist. l. c.

[d] It is called cinnamon-wood on account of its smell, which made the Spaniards, when they conquered Florida, in 1538, under Ferdinand de Soto, hope to find that valuable spicery there, which grows only in Ceylon." *Savary Dict.* ii. 1487.

[e] " Ligni quoddam genus ex Florida, nunc recens in Hispaniam invehitur, cujus ante paucos annos, notitiam Gallus quidam mihi dedit, ejus facultates mirum in modum prædicans adversus varios morbos, ut Galli experti erant, ab incolis edocti. Dicitur Iudis Pavame, Gallis, nescio quam ad causam, Sassafras." *Monard. Hist. ed. anno* 1569.

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rant, diaphoretic, and sweetener in scorbutic, venereal, cachectic, and catarrhal disorders.[f] Its medical character was formerly held in great estimation, and its sensible qualities, which are stronger than any of the other woods, may have probably contributed to establish the opinion so generally entertained of its utility in many inveterate diseases; for soon after its introduction into Europe, it was sold at a very high price,[g] and its virtues were extolled in publications professedly written on the subject.[h] It is now, however, thought to be of very little importance, and seldom employed but in conjunction with other medicines of a more powerful nature. Dr. Cullen "found that a watery infusion of it taken *warm*, and pretty *largely*, was very effectual in promoting sweat; but (he adds) to what particular purpose this sweating was applicable, I have not been able to determine."[i] In some constitutions Sassafras, by its extreme fragrance, is said to produce head-ach; to deprive it of this effect the decoction ought to be employed.

Sassafras is an ingredient in the decoctum sarsaparillæ compositum, or decoctum lignorum; but the only officinal preparation of it is the essential oil, which may be given in the dose of two drops to ten. Watery infusions made both from the cortical and woody part, rasped or shaved, are commonly drunk as tea; but the spirituous tincture, or extract, which contains both the volatile and fixed parts of this medicine, appears to be preferable.

[f] Lewis M. M.

[g] Viz. 50 livres per pound.

[h] See Sassafrasologia, &c. published by J. R. Bremane, 1627.

[i] Cullen's M. M. ii. 200.

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LAURUS NOBILIS. COMMON SWEET-BAY.

SYNONYMA. Laurus. *Pharm. Lond. & Edinb.* *Dodon.* 849. *Camer. Epit.* 60. *Gerard. Emac.* 1407. *J. Bauh. Hist.* 1. 405. The Common Bay-tree. *Raii Hist.* 1688. Laurus vulgaris. *Bauh. Pin.* 460. Laurus major sive latifolia. *Park. Parad.* 598. Laurus nobilis. *Trew. nov. act. ph. med.* A. N. C. vol. 2. p. 381. Laurus foliis ovato-lanceolatis, ramis florigeris, folio brevioribus. *Hall. Stirp. Helv.* n. 1602. *Arbor* Δαφνη *Fructus* Δαφνιδες *Dioscor.*

Class Enneandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 503.

Ess. Gen. Ch. *Cal.* 0. *Cor.* calycina, 6-partita. *Nectarium* glandulis 3 bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis venosis lanceolatis perennantibus, floribus quadrifidis.

THE Bay-tree never rises to any considerable height, but usually sends off many radical shoots, which grow close and bushy:* the bark is smooth, and of a dark olive colour; the leaves are elliptical, pointed, smooth, veined, entire, often waved at the margin, of a shining green colour, and stand erect upon short channelled foot-stalks: the flowers come forth in April and May, and, like those of the Sassafras, are male and female upon different plants;* they appear in clusters of three or four together, standing upon short peduncles at the axillæ of the leaves; the corolla divides into four oval leaves, which stand erect, and are of a yellowish white colour; the stamina vary in number, from seven to thirteen; there is no

* Tum spissa ramis laurea fervidos
Excludet ictus.—Hor. lib. ii. Ode xv.

* We have figured the male plant.

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calyx, and the glands, &c. correspond with the generic description: the style of the female flowers is very short, and the germen becomes an oval berry, covered with a dark green rind, and separable into two lobes or cotyledons.

This tree is a native of Italy, and other southern parts of Europe, and the first account we have of its cultivation in England is given by Turner in 1562;[b] it is a handsome evergreen, and now very common in the shrubberies and gardens of this country. The leaves and berries possess the same medicinal qualities, both having a sweet fragrant smell, and an aromatic astringent taste.[c]— The berries are imported from the Streights, and are much stronger than the leaves. "In distillation with water the leaves yield a small quantity of very fragrant essential oil: with rectified spirit they afford a moderately warm pungent extract. The berries yield a larger quantity of essential oil: they discover likewise a degree of unctuosity in the mouth, give out to the press an almost insipid fluid oil, and on being boiled in water a thicker butyraceous one, of a yellowish green colour, impregnated with the flavour of the berry."[d]

[b] Turn. Herb. part 2. fol. 32. in Hort. Kew. cit.

[c] Lewis M. M. 382.

[d] Their spicy warmth has recommended them for culinary purposes, and in this way they were much used by the Romans, "Apud veteres Romanos inter cibi condimenta in culinis frequenter adhibebantur, ut testatur Apicius Cœlius." And the leaves both of this plant, and the common laurel, are frequently used in custards, &c. But the practice has by many been discontinued, since a recent and fatal proof of the poisonous qualities of the latter was made public. To such we may observe, that the common laurel, or Prunus Lauro cerasus of Linnæus, differs very materially from the plant here represented, both in its effects and in its botanical characters. The common sweet bay may be thus used not only with safety but with the advantage of assisting digestion: and it has even been thought to obviate the poisonous effects of the laurel: "Aqua stillatitia Lauri, secundum Clar. Cantwell, antidotus est aquæ stillatitiæ Lauro cerasi." (Hall. l. c.) It may be remarked, however, that the deleterious part of the laurel is the essential oil which requires to be separated by distillation, in order to become an active poison.

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The Laurus of honorary memory,[e] the distinguished favourite of Apollo,[f] may be naturally supposed to have had no inconsiderable fame as a medicine;[g] but its pharmaceutical uses are so limited in the present practice, that this dignified plant is now rarely employed, except in the way of enema, or as an external application; thus, in the London pharmacopœia the leaves are directed in the decoctum pro fomento, and the berries in the emplastrum cumini. The berries however appear to possess some share of medicinal efficacy,[h] and if we do not allow them to be so extensively useful as represented by J. Bauhin, Tournefort,

[e] Laurus planta est, Apollini lucidissimo sacra: quin etiam a Jove colitur. It was not only generally worn as a triumphal crown, but, by the Emperor Tiberius, as a protection against thunder. "Laurum fulmine non percuti veteribus persuasum fuit." "Eadem superstitione nititur observatio illa de crepitu quem folia & virgæ Lauri inter urendum edunt. Nam si crepuissent abundè ac sonatiùs, haud dubie portendi felicem eventum rebantur: quòd si tacita deflagrassent, tristem & inauspicatum." The Laurus, as well as the Olive, was considered as an emblem of peace, and called Laurus pacifera, "si ejus rami prætendebantur inter armatos hostes, firmum quietis erat indicium." *(Matthiol)* Musas in Laurinis montis Parnassi sylvis sidere finxerunt. Eâdem coronabantur Pœtæ. Necnon adhuc quibusdam in locis novi Medicinæ Doctores Lauro coronantur: inde fortasse Laureandi & Laureati dicuntur. *(Geoff.)*

[f] Cui Deus. At conjux quoniam mea non potes esse,
Arbor eris certe, dixit, mea. Semper habebunt
Te coma, te citharæ, te nostræ, Laure, pharetræ.
Tu ducibus Latiis aderis, cum læta triumphum.
Vox canet; & longæ visent Capitolia pompæ.
Postibus Augustis eadem fidissima custos
Ante fores stabis; mediamque tuebere quercum.
Utque meum intonsis caput est juvenile capillis;
Tu quoque perpetuos semper gere frondis honores.

OVID. MET. I. v. 557.

[g] "Laurus apud veteres medicos magnum habuit in medicina usum, & veluti panacea æstimata fuit." Geoff.

[h] Haller says, "Calida & aromatica planta, semine, potissimum, cujus vires a medicis nondum pro dignitate per experimenta exploratæ sunt." l. c.

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Geoffroy, and some others, yet we have no doubt of their virtus, stomachica, resolvens, pellens menses, urinam, sudorem, as stated by Bergius, who recommends them only in hysteria. They have been long thought to act with peculiar power upon the uterine system, and on this account we are cautioned against their use in pregnancy.[1] An infusion of the leaves is sometimes drunk as tea; and the essential oil of the berries may be given from one to five or six drops, on sugar, or dissolved by means of mucilages, or in spirit of wine.

[1] Baccas Lauri interne sumptas, abhorret cl. Spielmann, ob vim prout dicit, infamem abortum promovendi, sanguinemque multum exæstuandi, etiam ubi pauca solum grana data fuerint. In praxi hodierna rare exhibentur baccæ; vidi tamen plures, etiam fœminas, quæ pulverem e seminibus Capsici & baccis Lauri, supra memoratum, innoxie sumpserunt, sæpe per octiduum. Bergius M. M. 324.

LAURUS CAMPHORA. CAMPHOR-TREE.

Arbor ex qua obtinetur Camphora, *Pharm. Lond. & Edinb.*

SYNONYMA. Camphora officinarum. *Bauh. Pin. p.* 500. *Park. Theat. p.* 1575. Laurus camphorifera Japon. vulgo Kus noki. *Kæmpfer. Amœn. exot. p.* 770. Arbor camphorifera Japonica. *Breyn. exot. plant. cent. p.* 11. *Prod. p.* 7. et *icon. rarior. p.* 16. *Raii Hist. p.* 1679. Arbor camphorifera Japonica, foliis laurinis, fructu parvo globoso, calyce brevissimo. *Commel. Hort. Amstel. tom. i. p.* 189. *tab.* 95. Conf. *Thumb. Fl. Japon. p.* 178. *Trew. in Nov. act. nat. cur. tom. ii. App. p.* 358. & *Burm. Fl. Ind. p.* 92. & *Flor. Cap. Prodr. p.* 12.

Class Enneandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 503.

Ess. Gen. Ch. Cor. calycina, 6-partita. *Nectarium* glandulis 3, bisetis, germen cingentibus. *Filamenta* interiora glandulifera. *Drupa* 1-sperma.

Sp. Ch. L. foliis triplinerviis lanceolato-ovatis.

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THIS tree grows to a considerable height, dividing into many branches, covered with smooth greenish bark: the leaves are ovate, lance-shaped, entire, smooth, nerved, on the upper side of a pale yellowish green colour, on the under glaucous, and stand upon long footstalks: the flowers are small, white, standing upon short pedicles, terminating the common peduncles, which are long, naked, erect, and proceed from the alæ of the leaves: there is no calyx: the corolla is composed of six small ovate concave unequal petals: the nectarium consists of three tubercles, terminating in bristly points, surrounding the germen: the filaments are nine, shorter than the corolla, and furnished with round antheræ: the inner filaments are supplied at the base with two round glands: the germen is roundish: the style is simple, about the length of the filaments, and terminated by an obtuse stigma: the fruit resembles that of the Cinnamon.

This tree is a native of Japan, growing abundantly in the woods of the western part of the island. It was first cultivated in Britain by Miller,[a] and by being easily propagated it is now a common green-house plant in this country, where, though it often seems sufficiently luxuriant and healthy, it very rarely produces flowers: so that for the annexed figure we are obliged to Dr. Smith, who supplied us with a specimen from his Herbarium.

Although this is the tree from which Camphor is chiefly obtained, and from which all Europe is supplied with this drug,[b] many other vegetables however are well known to afford a similar substance; of these, that most worthy of notice is a large tree, indigenous to the islands of Borneo and Sumatra, which, though a different genus, somewhat resembles that of the Laurus,[c] and is

[a] *Aiton. Hort. Kew.*

[b] *Murray, App. Med. vol. iv. p. 446.*

[c] We have seen the fruit of this tree, (in the possession of Dr. Smith) which has not the least affinity to that of any of the genus Laurus.

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very fully described by Houttuyn;[d] also by Grimm,[e] Miller,[f] Marsden,[g] and others; by whom we are told it grows sometimes to the height of 100 feet, exceeds fifteen in circumference, and yields the Camphor in a native concrete state, in both these islands; but that of the former is accounted the best, and obtained more abundantly than in Sumatra.

The Camphor is found to lodge every where in the interstices of the fibres of the wood, also in the pith, but most abundantly in the crevices and knots of this tree; which, in order to obtain the drug, must be cut down, its bark taken off, and the wood split. The larger pieces which in the Malay language are called *Copalla* (head), are first picked out from the upper part of the tree, afterwards the smaller, named *Poeruet* (belly), and lastly that which adheres to the wood, and is procured by rasping, denominated *Caki*, or feet.

This native Camphor, when freed from woody fibres, is consumed in the East, and sold, even to the Japanese, at a very high price: it does not suffer so much loss or change, on exposure to the open air, as that imported from Japan, and appears in every respect to be a much purer and more valuable medicine.[h] From this tree likewise exudes an oily or rather resinous fluid, named oil of Camphor;[i] which is of great estimation for its external use in relieving pains, and resolving inflammatory tumours.

Of the other vegetables which yield Camphor, we have already

[d] See *Verhandelingen door de Maatschappye d. Weetensch. te Harlem, vol. xxi. p.* 266. *sqq. tab.* 8. He calls it, Laurus foliis ovalibus acuminatis lineatis, floribus magnis tulipaceis.

[e] Arbor Camphoræ. *Eph. nat. cur. Dec.* 2. *An.* 1. *p.* 371. *fig.* 33.

[f] See an account of Sumatra by Charles Miller in *Phil. Trans. vol.* 68. *p.* 169.

[g] *Hist. of Sumatra. p.* 121.

[h] V. Rademacher in *Verhand. van het Batavisch Genootschap. d. Wetens. vol.* 2. *p.* 127.

[i] See authors cited above, and Ten Rhyne *Litt. ad Jac. Breynium in Prodr. p.* 13.

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noticed the Laurus Cinnamon, to which might be added several others which contain some proportion of this substance.[k]

The Camphor brought to Europe is to be considered as the essential oil of the tree here represented, obtained at Japan by a kind of distillation, or sublimation, and for this purpose the root is said by Ten Rhyne[l] to be the only part employed; but according to Cleyer[m] the Camphor is procured not only from the root, but also from the young branches; and by Kæmpfer and Thunberg both the root and wood are mentioned as affording this valuable medicine.[n]

Abbé Grosier, and the author of *Flora Cochinchinensis*,* inform us, that this tree, which is called *Tchang*, grows in China to an immense size; and the former states the process for obtaining the Camphor by the Chinese to be as follows: " They take some branches, fresh from the *Tchang*, chop them very small, and lay them to steep in spring water for three days and three nights. After they have been soaked in this manner, they are put into a kettle, where they are boiled for a certain time, during which they keep continually stirring them with a stick made of willow. When they perceive that the sap of these small chips adheres sufficiently to the stick in the form of a white frost, they strain the whole, taking care to throw away the dregs and refuse. This

[k] Of these we may cite many of the Verticillatæ, as sage, rosemary, lavender, hyssop, pepper-mint, and many others: Chenopodium ambrosioides. Achillea Millifolium & Ageratum, Unxia camphorata; and more particularly Schœnanthus persicus, (Kæmpf. Amœn. ex. p. 773.) Radix Zedoariæ, (Grimm in *Eph. n. c. Dec.* 2. *an.* 3. *p.* 409.) Thyme (*Phil. Trans. vol.* 33. *p.* 321.) Radix Enulæ (Malouin *Chemie med. tom.* 1. *p.* 321.) Anemone pratensis. Also Rad. asari, sem. fœniculi, cubebæ, &c.

[l] *L. c.*

[m] *Eph. N. C. Dec.* 2. *a.* 10. *p.* 79.

[n] Kæmpf. l. c. p. 772 Thunb. *Flor. Japon. p.* 72.

* He says, " Habitat frequens, & inculta, non minus in China, quam in Japoniâ." *v. i. p.* 250.

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juice is afterwards poured gently into a new earthen bason, well varnished, in which it is suffered to remain one night. Next morning it is found coagulated, and formed into a solid mass. To purify this first preparation, they procure some earth from an old earthen wall, which, when pounded and reduced to a very fine powder, they put into the bottom of a bason made of red copper; over this layer of earth they spread a layer of Camphor, and continue thus until they have laid four strata. The last, which is of very fine earth, they cover up with the leaves of pennyroyal; and over the whole they place another bason, joining it closely to the former by means of a kind of red earth, that cements their brims together. The bason thus prepared is put over a fire, which must be managed so as to keep up an equal heat: experience teaches them to observe the proper degree. But above all, they must be very attentive lest the plaster of fat earth, which keeps the basons together, should crack or fall off; otherwise the spirituous parts would evaporate and ruin the whole process. When the basons have been exposed to the necessary heat, they are taken off and left to cool; after which they are separated, and the sublimated-Camphor is found adhering to the cover. If this operation is repeated two or three times, the Camphor is found purer and in larger pieces. Whenever it is necessary to use any quantity of this substance, it is put between two earthen vessels, the edges of which are surrounded with several bands of wet paper. These vessel are kept for about an hour over an equal and moderate fire, and when they are cool the Camphor is found in its utmost perfection, and ready for use."*

The crude Camphor, exported from Japan, appears in small greyish pieces, and is intermixed with various extraneous matters: in this state it is received by the Dutch, and purified by a second sublimation; after which it is formed into loaves, the state in which it is brought to us. The peculiar method used by the Dutch in

* See General Description of China, translated from the French, vol. i. p. 451.

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this process has long been kept a secret; but others have succeeded in refining this drug, and the manner of performing it is now detailed and found to answer the purpose very well.[p]

Pure Camphor is white, pellucid, somewhat unctuous to the touch; of a bitterish aromatic acrid taste, yet accompanied with a sense of coolness; of a smell fragrant, and approaching to that of rosemary, but much stronger. It is totally volatile and inflammable; soluble in vinous spirits, oils, and the mineral acids; not in water, fixed or volatile alkaline liquors, nor in the acids of the vegetable kingdom.[q]

Camphor does not seem to have been known to the Greeks; but by the Arabians it was called Cafur, or Canfur, and was supposed to possess a refrigerant power.[r] To most small insects, and even to frogs and birds, the effluvia of Camphor prove very destructive, as appears from the experiments of Menghini and Carminati.[s] Taken inwardly by birds or quadrupeds, as rabbits, cats, dogs, sheep, &c. to the quantity of a dram, it has been found universally to produce deleterious effects;[t] and in large doses it has occasioned symptoms equally dangerous on man, instances of which are related by Griffin, Alexander, Whytt, Collin, Hoffman, Callisen, Cullen, and others. Whether Camphor ought to be considered as a califacient and stimulant, or as a refrigerant and sedative, we are surprized should of late have become a subject

[p] The following method is directed in the *Pharm. Suecica. p.* 52.

Rec. Camphoræ crudæ libras duas,
Calcis ustæ pulveratæ unciam unam.

Simul trita immittantur cucurbitæ vitreæ latæ et depressæ, atque arneæ calore sensim aucto liquetur Camphora. Remisso postea calore sublimetur masse pellucida, a scoriis, confracto vitro, separanda.

[q] Duncan's Edinburgh New Dispensatory.

[r] See Avicenna ed. Alpagi et Rinii. p. 563. Also Serapion.

[s] Mengh. *Comment. Bonon. tom.* 3. *p.* 314. *sq.* Carm. *de animal. ex mephitibus interitu. p.* 186.

[t] *Carm. & Mengh. l. c*

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of controversy; the experiments of Alexander, who found that his pulse was lessened ten vibrations in a minute,[u] sufficiently establish its sedative character; and though some instances might show a contrary effect, they are such as occasionally occur[x] from the use of medicines universally admitted to be the most powerful of this class, and are to be explained as a secondary effect upon the principle of a reaction in the system; and our own experience, as well as that of several others noticed below, who have given it successfully in inflammatory complaints, leads us to conclude with Dr. Cullen, that inflammation is never the direct operation of this substance.

[u] *Experimental Essays, p.* 227.

[x] Quarin says, "Vidi enim in multis, quibus camphora majori dosi exhibita fuit, pulsum celerrimum, faciem ruberrimam, oculos torvos inflammatos, convulsiones et phrenitidem lethalem secutam fuisse." *Method. med. febr. p.* 57.

Respecting the use of this important medicine, in different diseases, we shall follow Dr. Cullen,* whose words we shall transcribe, adding, however, proper notes and references, conformably to the plan hitherto pursued in this work.

* "It has been much employed in fevers of all kinds, particularly in nervous fevers attended with delirium and much watchfulness; and in such I have frequently employed it with advantage. Some time ago, I have often seen it employed by my fellow-practitioners in such cases: and that the good effects of it did not always appear, I imputed it to its being used only in small quantities. Since we came into the free use of wine and opium, Camphire has been little employed in the practice of this country. The use of it, however, has been very fully established by some of the most eminent physicians on the continent: among these I reckon the late learned and experienced Werlhoff,[y] who often employed it in many inflammatory diseases with great benefit, and plainly gives us his opinion in favour of its refrigerant power.

"The use of this medicine has been especially remarkable in putrid fevers,[z] of

[y] *Comm. Norimberg.* 1734. & 1735. We may also notice Huxham and Hoffman, l. inf. c.

[z] Pringle, *Diss. of the Army, p.* 310. 316. Reverius, *Obs. et hist. Cent. i. Obs.* 24. & 29. *Cent.* 2. *Obs.* 18. 62. 64. Hoffman, *Diss. de usu interno Camphoræ* 1714. *p.* 20. Huxam, *Oper. T.* 2. *p.* 116. Ludwig, *Advers. Med. Pract. vol.* 1. *P. i. p.* 62. Collin, *Obs. circa morb. P. iii. p.* 148. *sqq.* Even in the Plague, see Tissot, *Epist. ad Hall. p.* 237. Mindererus, *Lib. de peste. cap.* 15. Jo. Crato, *Epist. Med. a Schulzio edit. p.* 103. Hartman in *Pract. chymiatr.* 364. Schreiber, *Observ. et cogitata de pestilentia. p.* 58. *sqq.* and others.

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which indeed we have not many instances in this country: but from the very remarkable antiseptic powers which it discovers in experiments out of the body,[a] it is very probable that when thrown into the body in large quantities, so that at least its more subtile parts may be diffused over the whole system, it may be expected to produce considerable antiseptic effects. Its power in resisting and curing gangrene in the experiments of Collin,[b] are very remarkable; but whether that power be owing to its antiseptic virtue alone, or to its operation at the same time on the nervous system, I would not rashly determine.

"Both from its use in low, or what are called malignant fevers, and from its antiseptic powers, it is highly probable that it has been of great service in the confluent small-pox.[c] It is also likely that it may be of service in favouring the eruption of exanthemata, and of bringing them back to the skin, when from any cause they had suddenly receded, though I have no particular experience of this.

"These are the cases of acute diseases in which Camphire has been useful; and its use in many chronic cases is equally well authenticated. Whenever diseases depend upon a mobility of the nervous power, and an irregularity of its motions, it may be expected that such a powerful sedative should be of service. Accordingly, many practitioners have reported its virtues in hysteric and hypochondriac cases; and I myself have had frequent experience of it.

"In spasmodic and convulsive affections it has also been of service;[d] and even in epilepsy it has been useful. I have not indeed known an epilepsy entirely cured by Camphire alone; but I have had several instances of a paroxysm which was expected in the course of a night, prevented by a dose of Camphire exhibited at bed-time; and even this when the Camphire was given alone: but it has been especially useful when given with a dose of cuprum ammoniacum, of white vitriol, or of the flowers of zinc.

"Since the report of Dr. Kinnier, in the Philosophical Transactions, vol. XXXV. Camphire has been often employed in cases of mania; and I have given above an account of a trial which I had made of it. In that case, however, it was not successful; nor in several other trials has it been more so with me, or other practitioners in this country.

[a] Pringle, l. c. app. p. 12.

[b] *L. c. P.* 3. *p.* 145. See also Pouteau *Melanges de Chirurgie. p.* 187.

[c] Haller, *Opusc. path. p.* 145. Tissot, *Epist. Med. Pract. p.* 237. C. L. Hoffmanns *Nachricht von e. gut. Heilart d. Kinderblattern.* 1764. *in Vogel Bib. vol. 5. p.* 340. Collin, *l. c. P.* 3. *cas.* 22. 23. 24. In the Small-pox Hospital, Camphor is in general use, and our own experience warrants us in saying, that in the early stages of this disease, and after proper evacuations have been effected, it seldom fails, in doses of a scruple, to relieve the pains of the head and loins, and to procure rest. But we have no reason to think with Rosenstein and Boerhaave, that the activity of the variolous miasmata is to be subdued by this medicine.

[d] Hoffman, *l. c. p.* 22. Home, *Clinical. Exp. p.* 193. Locher, *Obs. Pract. p.* 42. Millar, *on Asthma, &c. p.* 104. Collin, *l. c. cas.* 8. and others.

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"We have had here lately, in a patient under the care of Mr. Lata, surgeon, a notable example of the use of Camphire in a maniacal case, which I think it proper to take notice of here."

"This shows clearly enough the power of Camphire in mania; and I have only to add, that though in several other instances it has not made a cure, it has not in any instance of a moderate dose, that is, not exceeding half a dram, occasioned any disorder in the system; and in several cases it has induced sleep, and rendered the mind for some time more quiet.

"I observe that De Berger has been more successful; and perhaps the reason of our failure has been our not attending to his admonition. In his letter to Werlhoff on the subject of Camphire, he has the following passage: *Multoties hoc remedio in mea praxi utor, præcipue in inflammationibus internis, magno cum successu, et demiror tam multos medicos ab usu ejus interno abhorrere. Non diu est, quod præmissis præmittendis maniacum eo sanitati penitus restitui. In eo vero momentum præcipuum situm est, ut sufficiente dosi et diu satis exhibeatur.*

"This is particularly confirmed by a case given by Joerdens in the *Commercium Norimbergense.* In several other writers there are accounts of maniacal and melancholic cases cured by the use of Camphire; but many of the practitioners who report such cures acknowledge, that in many cases it had disappointed their expectations.* Whether these failures have been owing to the not employing at the same time nitre, vinegar, and some other remedies which are supposed to contribute much to the virtues of Camphire, we would not determine; but we are clear that mania is a disease of considerable diversity with respect to its causes, and that there are certain cases of it only to which Camphire is properly adapted. In cases of an organic affection of the brain, it is hardly to be supposed that Camphire or any other remedy can be of use.‡

"I have mentioned above, that several practitioners have employed Camphire in the most acute inflammatory diseases; and therefore we are not surprised to find that it has been given also internally in cases of acute rheumatism; and it is said to have been with advantage.[f] We have no experience of it, because we have

* In the case here alluded to, the dose of Camphor was gradually increased to above sixty grains three times a day, by which a cure was effected.

* Dr. Ferriar, who gave Camphor in eight maniacal cases, declares it to be "totally useless in these disorders:" in one of these cases two drams of Camphor, a scruple of musk, and eight grains of opium, were given daily, "without producing sleep, or the smallest impression upon the disease." *Med. Hist. & Reflections, p.* 174.

‡ We may here remark, that nymphomania, and other local affections producing effects of a similar kind, frequently superinduce a general state of mania, in which Camphor has been found more especially useful.

[f] See Rosenst. *Apot. p.* 7. Collin, l. c. aliique. For its good effects in fevers of the inflammatory kind, we have the testimony of Werlhoff, De Berger, Albrecht, Wolf, Joerdens, all to be found in the *Commer. Norimb.*

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found another method of cure generally successful; but I take this occasion to mention its external use, as often of great service in removing the rheumatic pains of the joints or muscles. This we have often experienced, and have no doubt of Camphire having a peculiar power in taking off the inflammatory state in cases both of rheumatism and gout. In the case of rheumatism it is a matter of common experience: in the case of gout it is more rare; but I have had the following particular example of it. A gentleman had brought from the East Indies an oil of Camphire, a native substance, which seemed, by its taste and smell, to be no other than Camphire in that form, and which I perceive to be mentioned by naturalists as a native substance, produced by several trees in the East Indies. This the person possessed of recommended to all his acquaintances as an infallible remedy for the gout and rheumatism; and a gentleman who had often laboured under the gout, and then felt the pains of it unusually severe, was persuaded to apply it. He had then the gout exceedingly painful in the ball of the great toe and instep of one foot. On this part he rubbed a quantity of the oil of Camphire; and in about half an hour or a little more he was entirely freed from the pain he had before. In less, however, than an hour after, he had a pain and inflammation come upon the same part of the other foot. As the pain here became pretty severe, he again employed the oil of Camphire, and with the same effect of soon relieving the pain very entirely. The consequence of this was also the same; for in less than an hour the pain and inflammation returned to the foot that had been first affected: and here again our patient, obstinate in persisting in the trial of his remedy, again applied the oil, and he had the same success as before in relieving the part affected, and with the same effect also of occasioning a translation. But here the translation being made to the knee, the patient abstained from any farther application of the oil, and suffered the pain of the knee to remain for a day or two, and till it went off by some swelling and desquamation in the usual manner.

"This history shows sufficiently the power of Camphire in relieving the inflammatory spasm and pain of the part chiefly affected; but at the same time that it has no effect on the diathesis of the system, and that, when that subsists, as Camphire is ready to occasion a translation, it will always be employed in gouty cases with great danger. In cases of acute rheumatism, we have had occasion to remark, that a strong solution of Camphire in oil would relieve the pain of the joint for the time chiefly affected; but it was very often with the translation of it to another joint soon after: and we have therefore long ago ceased from employing such an application in all cases where an acute rheumatism was very general and strong in the system.

"It may be supposed that it is analogous to this power of Camphire in taking off an inflammatory state, that this medicine has been often found so useful in relieving toothach; and I have no doubt that Camphire operates by the power

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mentioned in relieving toothach, but it is also by exciting a copious flow of saliva and mucus from the internal surface of the mouth, that water somewhat impregnated with Camphire, employed to wash the mouth, has been frequently of service in relieving the disease.

" However it may be with respect to toothach, we have no doubt that the antiphlogistic nature of Camphire may be of use in curing ophthalmia: and this gives a good ground for the many attempts that have been made to introduce Camphire into the medicines intended to be employed externally in the cure of ophthalmia.

" We have now mentioned many of the virtues of Camphire as employed by itself, and must now mention some instances of its peculiar utility when combined with other medicines.

" When combined with drastic purgatives, it is said to moderate their acrimony, and thereby their violent operation. We have not indeed perceived this, and perhaps never tried it in a proper manner; but in the mean time, the respectable authority of Mr. Lasonne,[s] the father, satisfies me that it is well founded.

" Another opinion that has been very general is, that Camphire has the power of correcting the acrimony of cantharides. In opposition to this, we would not quote the facts given by Dr. Heberden of two several instances in which Camphire seemed to occasion strangury;† for I must conclude these facts to have been very accidental occurrences, as I have employed Camphire fifty times, even in large doses, without my ever observing its having any effect upon the urinary passages. Mr. Lasonne, the father, has observed, as I have done frequently, that Camphire, though given very largely, never discovers its smell in the urine, whilst it frequently does it in the perspiration and sweat.

" It was formerly a frequent practice in this country to anoint a blistering plaster that was to be applied to the back, or other part, with camphorated oil, and this with a view of preventing strangury from the cantharides. The practice however has been long ago laid aside, because it was perceived that, in most persons, if the plaster was allowed to continue applied for above twelve hours, and while at the same time it was omitted to give the patient a large quantity of drink, a strangury would come on notwithstanding the unction of camphorated oil, and even the exhibition of a quantity of Camphire internally. The practitioners of this country have lost their faith in the power of Camphire in correcting the acrimony of cantharides; and for preventing the strangury that might otherwise arise, they trust entirely to a large exhibition of Arabic emulsion, and to the plaster's not being allowed to lie on too long.

" Another virtue ascribed to Camphire in combination, is its moderating the

[s] Lassone sen. in *Hist. de la Société. Roy. de Medecine de Paris*, *vol. 5. p.* 265.

† *Med. Trans. vol. i. p.* 471.

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action of mercury; and if the saline preparations of mercury are triturated with a portion of Camphire, this abstracts a part of the acid that had been united with the mercury, and therefore renders the preparation more mild than before, and at the same time does not deprive entirely the preparation of much of its deobstruent virtue. This we have had experience of in that very acrid preparation of mercury the turbeth mineral, and also in the mercurius dulcis or calomel, which, by being triturated with Camphire, become less purgative, and less ready to excite salivation. How far this mitigation of the preparations of mercury leaves them equally powerful as before in the cure of syphilis, I cannot certainly determine; but am of opinion that it does not, if they be employed in the same quantities as they would have been before.

"This mitigation of the saline preparations of mercury, by a combination with Camphire, will be readily admitted; but many practitioners go farther, and alledge that mercury, in every condition, united with Camphire, becomes a more mild substance, less irritating to the system, while it is equally powerful in curing the diseases to which it is otherwise adapted.* I must admit the experience of the practitioners of France in this matter, but those of this country know nothing of it; and I can assert, that in many trials, a quantity of Camphire added to our common mercurial ointment neither prevented the unction, in the usual quantity, from exciting salivation, nor rendered the symptoms of it more mild than usual.

"A peculiar combination of Camphire said to have considerable effect, is that with opium. The employment of opium is in many persons attended with some inconvenience and disorder, as I have observed above; and every practitioner knows it to be alledged by some respectable persons, that Camphire joined with it prevents these disorders. It may be so, but I have not found it in my experiments. I have found large doses of Camphire dispose to sleep, but commonly with that same confusion of head and turbulent dreams which sometimes arise from the use of opium; and I have not found that a small quantity of Camphire has any effects in increasing the power of opium, or of rendering the operation of it different from what it would have been if employed alone. But against the respectable authorities of Lasonne and Halle,† I must suspect that my experiments have not been made properly or often enough.

"There is still another instance of the improvement of a medicine by a combination with Camphire. Mr. Lasonne assures us, that Camphire, joined with the Peruvian bark, gives it more energy and force, whether it be to be employed for the purpose of curing fever or gangrene; and I believe this to be well founded.

"After thus treating of the virtues of Camphire, we must speak of its dose and

* Raulin, *Observ. de Medecine. p.* 266.
Despatureaux *in Hall. Diss. Pract. vol. i. p.* 531.

† Hallé, *Mem. de la Société de Med. tom. cit. p.* 73.

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exhibition. It will appear clearly from what is said above, that it may be given in doses of very different quantities; and it appears to me from many trials, that doses of a few grains, repeated only after long intervals, have hardly any effect at all, and that, to obtain sensible effects from it, it must either be given in large doses, not under that of twenty grains, or, if given in smaller doses, these must be repeated frequently after short intervals. The latter practice is preferred by some eminent practitioners. To what length in either way we may proceed, I have not experience enough to determine with any precision. From the effects of two scruples given in one dose in the case narrated above, and in another quoted from Dr. Hoffman, it would appear that such doses are violent and dangerous; but from some other experiments, it appears that larger doses have been sometimes given with impunity: and when it is given in divided doses, it appears from Collin's experiments, that it may be given to the quantity of a dram, or two drams in the course of a day; and in one of his experiments it was given to the quantity of half an ounce: and the same will appear from the history which I have given above. It is probable that from large doses only, considerable effects are to be expected; and as, from many experiments, it appears that the effects of Camphire are not very durable in the body, it will be obvious that the repeated and long continued use of it may be necessary to the cure of several diseases.

"With respect to the exhibition of this medicine, it is, in the first place, necessary that it should be always very minutely divided, as we know it is not readily dissolved in the stomach;[1] and while it remains there, it will float on the surface of the other contents, and in that way be applied to the upper orifice of the stomach, and give occasion to some pain there. It ought therefore to be minutely divided before it be given; and this may be done by rubbing it first in a mortar with any dry powder, such as nitre or hard sugar: but to make certain of a minute division, it is proper at the same time to add a few drops of rectified spirit of wine, or of such other spirituous menstruum as the spiritus vitrioli dulcis, or liquor anodynus mineralis of Hoffman.

"It may also be divided by rubbing it with the mucilage of gum arabic; but this will also be more perfectly executed if the Camphire is previously dissolved by a little spirit of wine or expressed oil. By its being diffused in the mucilage of gum arabic, it may be again diffused in any watery fluid for more convenient exhibition; but it is to be observed, that Camphire diffused in a watery fluid is ready to exhale from it, or arise to its surface, and to render the exhibition more disagreeable. When, therefore, any large quantity of water in which Camphire is diffused is to be prepared at once, it is proper to employ some means for entangling the Camphire. Sugar alone does not seem to be sufficient for the purpose; and it is more

[1] If this be not attended to, it constantly occasions heat and uneasiness at the stomach. See Fothergill, *Med. Observ. &c.* vol. i. p. 432.

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effectually done by triturating the Camphire with mucilage alone, or with a portion of sweet almonds, and diffusing it again by means of mucilage into an emulsion.

"It has been thought that the virtues may be increased by exhibiting along with it a portion of nitre; but in many trials I have not been sensible of the benefit derived from the nitre, which, in any quantity that can be conveniently employed, has little effect on the system. It is with more probability alledged, that vinegar exhibited with Camphire is of service. Vinegar certainly gives the best means of correcting the taste of Camphire, and seems even to render it less disagreeable to the stomach; and we may allow that both by its refrigerant and antiseptic powers, it may contribute somewhat to the virtues of the Camphire."[k]

[k] *M. M. vol. ii. p.* 309.

CANELLA ALBA. LAUREL-LEAVED CANELLA.

SYNONYMA. Canella alba. *Pharm. Lond. & Edinb.* Winterania Canella. *Lin. Supp. p.* 247. Arbor baccifera laurifolia aromatica, fructu viridi calyculato racemoso. *Sloane's Jamaica, vol. ii. p.* 87. *t.* 191. *f.* 2. *Catesby's Carolina, vol. ii. p.* 50. *t.* 50. Canella foliis oblongis obtusis nitidis, racemis terminalibus. *Browne's Jam. p.* 275. *t.* 27. *f.* 3. Cassia lignea Jamaicensis Laureolæ foliis subcinereis cortice piperis modo acri. *Pluckenet Almag. p.* 89. *t.* 81. *f.* 1. *Lin. Spec. Plant. p.* 686. *Conf. Swartz. Botanical History of the Canella Alba. Linnean Transactions. p.* 96.

Class Dodecandria. *Ord.* Monogynia. *Lin. Gen. Winterania, p.* 598.

Ess. Gen. Ch. *Cal.* 3-lobus. *Pet.* 5. *Antheræ* 16, adnatæ nectario urceolata. *Bacca* 3-locularis. *Sem.* 2.

THE stem of this tree rises very straight, from ten to fifty feet in height, and branched only at the top; it is covered with a whitish bark, by which it is easily distinguished at a distance from other trees in the woods where it grows: the leaves are placed upon short footstalks, and stand alternately: they are oblong,

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obtuse, entire, of a dark shining green hue, and thick like those of the laurel: the flowers are small, seldom opening, of a violet colour, and grow in clusters at the tops of the branches upon divided footstalks: the calyx is monophyllus, divided nearly to its base into three lobes, which are roundish, concave, incumbent, green, smooth, membranous, and persistent: the corolla is composed of five petals, which are much longer than the calyx, sessile, oblong, concave, erect, and two of them are somewhat narrower than the other three: the nectary is pitcher-shaped, of the length of the petals, and supports the antheræ instead of filaments, which are wanting: the antheræ are twenty-one, linear, parallel, distinct, single valved, and fixed longitudinally to the nectary: the germen is ovate, placed above the insertion of the corolla, and supports a cylindrical style, furnished with two obtuse rough convex stigmata: the fruit is an oblong berry, containing four kidney-shaped seeds of unequal size.*

It appears a little surprising, that the Canella, which is a native of the West Indies, and of which figures have been given by Plukenet, Sloane, Catesby, Browne,[a] and others, should have been generally confounded with the tree which produces the cortex winteranus: even the younger Linnæus, who describes this tree under the genus Winterania, from a specimen in the herbarium of Montin, has acknowledged that he could not discover how far it differed from the Drimys, or Wintera of Murray.[b] The present

* "The whole tree (according to Dr. Swartz) is very aromatic, and when in blossom perfumes the whole neighbourhood. The flowers dried, and softened again in warm water, have a fragrant odour, nearly approaching to that of musk. The leaves have a strong smell of laurel. The berries, after having been some time green, turn blue, and become at last of a black glossy colour, and have a faint aromatic taste and smell. They are, when ripe, as well as the fruit of several kinds of laurel, very agreeable to the *White-bellied and Bald-pate Pigeons, (Columba Jamaicensis & leucocephala)* which feeding greedily upon them acquire that peculiar flavour so much admired in the places where they are found." l. c.

[a] Swartz observes, that the only tolerable figure among these is that of Browne, l. c.

[b] "Quantum differat a genere Drimys nondum bene scio." *Supp. p.* 247.

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figure, which is given on the authority of Dr. Swartz, who presented it to the Linnean Society, accompanied with a botanical history of the tree,* will, we hope, remove every doubt concerning the true characters of Canella alba; and by comparing the annexed plate with that published of the Winterana aromatica, in the fifth volume of Medical Observations and Inquiries by Drs. Fothergill and Solander,‖ it may be observed how far the tree, which produces the cortex winteranus, differs from that of our plant, the bark of which is the officinal Canella alba. The latter appears from Clusius to have been first introduced into Britain about the year 1600;† the former was known in England twenty years before, and took its name from William Winter, captain of one of the ships which accompanied Sir Francis Drake to the Straits of Magellan, from whence he brought this bark to Europe in 1579. John Bauhin appears to be the first [d] who confounded the names of these barks, by styling the cortex winteranus Canella alba; and as Sir Hans Sloane, who has given a separate description of both trees, and was sensible of a difference in the taste of their barks, seems to insinuate that this might depend upon the place of growth, his remarks did not wholly remove the error.[e]

Professor Murray, in his 14th edition of the Systema Vegetabilium, was the first who made a distinct genus of Canella, and thus corrected the mistake of Linnæus,‡ who, disregarding the evidence

[c] *Vide l. c.*

* Read before the Linnean in December 1788.

‖ "*Some Account of the Cortex Winteranus, or Magellanicus, by Dr. John Fothergill, with a Botanical Description by Dr. Solander, and some Experiments by Dr. Morris.*" *p.* 41.

† He says, "Ante paucos annos (1605) cœpit exoticus cortex inferri, cui nomen Canellæ albæ indiderunt." *Exot. lib. iv. cap.* 4.

[d] *Hist. vol. i. p.* 460. [e] *Phil. Trans. No.* 192. *p.* 462.

‡ *P.* 443. Though Murray has here said, "Cortex hujus est Canella alba officinarum," yet the London College has not availed itself of this authority, no botanical reference being given to Canella alba in the new pharmacopœia.

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of the old botanists,* combined two genera under the name of Laurus Winterana;[f] but he afterwards made it a separate genus, and called it Winterania,[g] a name by which it has been long universally, though improperly distinguished. Mr. Aiton, who has followed Murray in considering the Canella, as differing generically from the tree named after Winter, informs us, that it was cultivated by Mr. Phillip Miller, at Chelsea, in 1739.[h]

The officinal Canella alba is the bark of the branches of this tree, freed from its outward covering, and dried in the shade. It is brought to Europe in long quills, which are about three quarters of an inch in diameter, somewhat thicker than cinnamon, and both externally and internally of a whitish or light brown colour, with a yellowish hue, and commonly intermixed with thicker pieces, which are probably obtained from the trunk of the tree. This bark in taste is moderately warm, aromatic, and bitterish; its smell is agreeable, and resembles that of cloves. Its virtues are extracted most perfectly by proof spirit. "In distillation with water it yields an essential oil of a dark yellowish colour, of a thick tenacious consistence, difficultly separable from the aqueous fluid, in smell sufficiently grateful, though rather less so than the bark itself: the remaining decoction, inspissated, leaves an extract of great bitterness, in consistence not uniform, seemingly composed of a resinous and gummy matter, imperfectly mixed. On inspissating the spirituous tincture, the spirit which distils has no great smell or taste of the Canella, but is so far impregnated with its more volatile oil as to turn milky on the admixture of water: the remaining extract retains the bitterness of the bark, but has little more of its warmth or flavour than the extract made with water."[i]

* Among these we may notice Plukenet, who, speaking of these two trees, says, "Varie inter se plurimum diversæ plantæ per illarum ignorationem plane confunduntur." *Almag. Maht. p.* 40.

[f] *Sp. Plant. ed.* 1. *p.* 371. [g] See his *Hort. Cliff.* 448. and *Mat. Med.*

[h] *Hort. Kew. vol. ii. p.* 125.

[i] Lewis, *M. M. p.* 186.

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The use of Canella alba now supersedes that of the old bark of Winter, on the authority of both the London and Edinburgh pharmacopœias. It has been supposed to possess a considerable share of medicinal power, and is said to be an useful medicine in the scurvy, and some other complaints; but it is now considered merely in the character of an aromatic, and like many of the spices is chiefly employed for the purpose of correcting and rendering less disagreeable the more powerful and nauseous drugs. It is therefore an ingredient in the pulv. aloet. Pharm. Lond. and in the tinctura amara, vinum amarum, vinum rhei, &c. of the Pharm. Ed. Swartz tells us, that " this bark, together with the fruit of Capsicum, was formerly a common ingredient in the food and drink of the Caribs, the ancient natives of the Antilles; and even at present it makes a necessary addition to the meagre pot of the negroes." l. c.

MYRISTICA MOSCHATA. NUTMEG TREE.

SYNONYMA. Nux Moschata. *Pharm. Lond. & Edinb. Park. Théat. p.* 1600. *Raii Hist. p.* 1522. Nux Moschata, fructu rotundo. *Bauh. Pin. p.* 407. *Pluk. Almag. p.* 267. Nux Moschata rotunda, sive femina. *Gerard, Emac. p.* 1536. *Breyn. Prod. vol. ii. p.* 77. Nux Myristica. *Rumph. Amb. vol. ii. tab.* 4. Myristica Moschata. *Thumb. Act. Stockholm. ann.* 1782. *p.* 46. *t.* 1. *Conf. Mémoire sur le genre du Muscadier Myristica, par Mr. De La Marck; Hist. de l'Acad. Royal des Scien. pour l'an.* 1788. *pub. en* 1790. *p.* 148.

Class Dioecia. *Ord.* Syngenesia. *Shreb. Gen. Plant.* 1562.

Ess. Gen. Ch. *Masc. Cal.* 3-fidus. *Cor.* 0. *Antheræ* circum supremam partem filamenti adnatæ.
Fem. Cal. 3-fidus. *Cor.* 0. *Styl.* breviss. *Stigma* bifida. *Caps.* drupacea. *Shreb.*

Sp. Ch. M. foliis lanceolatis fructu glabro. *Thunb.*

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THIS tree attains the height of thirty feet, producing numerous branches which rise together in stories, and covered with bark, which of the trunk is a reddish brown, but that of the young branches is of a bright green colour: the leaves are nearly elliptical, pointed, undulated, obliquely nerved, on the upper side of a bright green, on the under whitish, and stand alternately upon footstalks: the flowers are small, and hang upon slender peduncles, proceeding from the axillæ of the leaves: they are both male and female upon separate trees.

Of the *male flower* the calyx consists of one bell-shaped leaf, divided at the brim into three small teeth: there is no corolla: the stamina, according to De La Marck, are from six to twelve, joined in a bundle, consisting of four short filaments, inserted into the receptacle, and surrounded with antheræ, which are long, linear, and united.

Of the *female flower* the calyx is similar to that of the male flower: there is no corolla: the germen is above, oval, and supports a style, terminated by two stigmata: the fruit is round or oval, and of the drupous kind, of which the external covering is fleshy, tough, and by opening at the top separates into two valves, and discovers the Mace, which has a reticulated appearance, and divides into three portions, which closely invest a slender shell containing the seed or Nutmeg. This tree is a native of the East Indies, particularly the Molucca Islands.

The Nutmeg has been supposed to be the Comacum of Theophrastus, but there seems little foundation for this opinion, nor can it with more probability be thought to be the Chrysobalanos of Galen. Our first knowledge of it was evidently derived from the Arabians; by Avicenna it was called Jiausiban, or Jausiband,[a] which signifies Nut of Banda. Rumphius both figured and described this tree;[b] but the figure given by him is so imperfect, and the description so confused, that Linnæus, who gave it the

[a] *Lib. ii. cap.* 503, and by Serapion it was named Jeuzbave.

[b] Vide, *l. c.*

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generic name Myristica, was unable to assign its proper characters. Sonnerat's account of the Muscadier is still more erroneous;[c] and the younger Linnæus was unfortunately misled by this author, placing the Myristica in the class Polyandria, and describing the corolla as consisting of five petals.[d] Thunburg, who examined the flower of the Nutmeg, places it in the class monoecia, and according to his description, the male flower has but one filament, surrounded at the upper part by the antheræ;[e] and as the filaments are short and slender, and the antheræ united, this mistake might easily arise.* Mr. De La Marck informs us, that he received several branches of the Myristica, both in flower and fruit, from the Isle of France, where a Nutmeg-tree, which was introduced by Mons. Poivre, in 1770, is now very large, and continually producing flowers and fruit.[f] From these branches, which were sent from Mons. Céré, Director of the king's garden in that island, Mons. De La Marck has been enabled to describe and figure this and other species of the Myristica with great accuracy; and the annexed plate will shew, that we have profited by his labours.

The seeds or kernels, called Nutmegs, are well known, as they have been long used both for culinary and medical purposes. Distilled with water, they yield a large quantity of essential oil, resembling in flavour the spice itself; after the distillation an insipid sebacious matter is found swimming on the water; the decoction, inspissated, gives an extract of an unctious, very lightly bitterish taste, and with little or no astringency. Rectified spirit extracts the whole virtue of Nutmegs by infusion, and elevates

[c] *Voyage à la Nouvelle Guinée, p.* 194. *t.* 116.

[d] *Supp. Plant. p.* 265.

[e] *Act. Stockholm.* 1782. *p.* 46.

* Since writing the above, Mr. Dryander informed me, that he had examined several specimens of these male flowers preserved in spirit, in each of which he found only one columnar filament, and concludes that De La Marck must have been deceived by dividing the fibres of this organ: consequently the myristica should in strictness be placed in the order monadelphia.

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very little of it in distillation: hence the spirituous extract possesses the flavour of the spice in an eminent degree.

Nutmegs, when heated, yield to the press a considerable quantity of limpid yellow oil, which on cooling concretes into a sebacious consistence. In the shops we meet with three sorts of unctious substances, called Oil of Mace, though really expressed from the Nutmeg. The best is brought from the East Indies in stone jars; this is of a thick consistence, of the colour of mace, and has an agreeable fragrant smell: the second sort, which is paler coloured, and much inferior in quality, comes from Holland in solid masses, generally flat, and of a square figure: the third, which is the worst of all, and usually called Common Oil of Mace, is an artificial composition of sevum, palm oil, and the like, flavoured with a little genuine oil of Nutmeg.[g]

The medicinal qualities of Nutmeg are supposed to be aromatic, anodyne, stomachic, and restringent,[h] and with a view to the last mentioned effects, it has been much used in diarrhœas, and dysenteries. To many people the aromatic flavour of Nutmeg is very agreeable; they, however, should be cautioned not to use it in large quantities, as it is apt to affect the head, and even to manifest an hypnotic power in such a degree as to prove extremely dangerous. Bontius speaks of this as a frequent occurrence in India;[i] and Dr. Cullen relates a remarkable instance of this soporific effect of the Nutmeg, which fell under his own observation,[k] and hence

[g] *L. c.*

[g] *Ed. New Dispens.* by *Dr. Duncan. p.* 238.

[h] *Bergius, M. M. p.* 884.

[i] *De Medicina Indorum, p.* 20. See also *Miscell. Nat. Cur. dec.* III. *an.* II. *obs.* 129.

[k] "A person by mistake took two drams or a little more of powdered Nutmeg: he felt it warm in his stomach, without any uneasiness; but in about an hour after he had taken it he was seized with a drowsiness, which gradually increased to a complete stupor and insensibility; and not long after he was found fallen from his chair, lying on the floor of his chamber in the state mentioned. Being laid a-bed

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concludes, that in apoplectic and paralytic cases this spice may be very improper. The officinal preparations of Nutmeg are a spirit and essential oil, and the Nutmeg in substance roasted, to render it more astringent. Both the spice itself and its essential oil, enter several compositions, as the confectio aromatica ,spiritus amoniæ com. &c. Mace possesses qualities similar to those of the Nutmeg, but is less astringent, and its oil is supposed to be more volatile and acrid.

he fell asleep; but waking a little from time to time, he was quite delirious: and he thus continued alternately sleeping and delirious for several hours. By degrees, however, both these symptoms diminished, so that in about six hours from the time of taking the Nutmeg he was pretty well recovered from both. Although he still complained of head-ach, and some drowsiness, he slept naturally and quietly the following night, and next day was quite in his ordinary health." *Mat. Med. vol. ii. p.* 204.

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ORD. XLI. SCABRIDÆ.

(From *Scaber;* rough, rugged, or bristly) rough leaved Plants.

PARIETARIA OFFICINALIS. WALL PELLITORY.

SYNONYMA. Parietaria. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 331. *Rati Hist. p.* 206. *Synop. p.* 158. Parietaria vulgaris. *Park. Theat. p.* 436. Parietaria foliis elliptico-lanceolatis hirsutis. *Hal. Stirp. Helv. n.* 1612. Parietaria officinalis. *Huds. Ang. p.* 442. *Lightf. Scot. p.* 634. *Withering Bot. Arr. p.* 1141. *Curt. Flor. Lond. Flor. Dan.* 521.

Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1152.

Ess. Gen. Ch. Herm. Cal. 4-fidus. *Cor.* 0. *Stamina* 4. *Styl.* 1. *Sem.* 1. superum, elongatum.

Fem. Cal. 4-fidus. *Cor.* 0. *Stam.* 0. *Stylus* 1. *Sem.* 1. superum, elongatum.

Sp. Ch. P. fol. lanceolato-ovatis pedunculis dichotomis calycibus diphyllis.

THE root is perennial, reddish, fibrous, creeping: the stem is erect, rough, viscous, reddish, and furnished with long spreading branches: the leaves are elliptical, pointed, veined, somewhat hairy, and placed on short footstalks: the flowers are small, of a greenish colour, tinged with red, placed at the alæ of the leaves in sessile-branched veticillate clusters, and are both hermaphrodite and female; two of the former and one of the latter are placed within the same involucrum, which is permanent, and divided into seven irregular oval pointed leafits, beset with glandular hairs:

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the calyx of the hermaphrodite flower separates into four flat blunt segments, about half the size of the involucrum, and supplies the place of a corolla: the filaments are four, transversely wrinkled, and manifest an elastic power: the antheræ are double, and according to Mr. Lightfoot, have a great degree of sensibility:† the germen is egg-shaped, and supports a reddish style, terminated with a brush-like stigma: the calyx becomes the seed vessel, and contains an egg-shaped seed. The female flower stands between the other two, from which it differs in not being furnished with stamina.

It is reckoned amongst the most common of British plants, growing on old walls, and flowering from May till September.

This plant promises little from its sensible qualities: it has no smell, and its taste is simply herbaceous. Formerly it was accounted emollient, and was one of the five herbs of this denomination; but as Parietaria has no mucilaginous quality, this effect ought to be ascribed to the warm water, for which the plant served merely the purpose of a vehicle. Its character, as a diuretic, is better known. Matthiolus tells us, that its expressed juice, sweetened with sugar, had a very powerful effect in this way:[a] and Barbeirac[b] informs us, that a decoction of this plant, and uva ursi, was found of great use in clearing the urinary passages of viscid mucus, and sabulous concretions: these testimonies however will have little weight with the medical practitioner, and it is now very seldom used, though sanctioned with a place in the Materia Medica of both the Pharmacopœias.

[a] *Matt. in Dioscor. p.* 782. [b] *Medic. constit.* 1751. *p.* 163.

† "For if irritated with a point of a pin, they fly from the calyx with elastic force, and explode their powder." See, *l. c.*

The leaves, strewed in granaries, are said to destroy the corn weevil. *Light.*

Dr. Withering has been informed that this plant contains a considerable quantity of nitre, and that in making an extract from it, the mass has taken fire. *Bot. Ar. p.* 1142.

This quality of parietaria is also noticed by Mr. Lightfoot. *L. c.*

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DORSTENIA CONTRAJERVA. CONTRAYERVA.

SYNONYMA. Contrayerva. *Pharm. Lond. & Edinb.* Dorstenia sphondylii folio, dentariæ radice. *Plum. ic. p.* 109. *tab.* 119. *Jacquin coll. vol.* iii. *Auctorum sequentium synonyma ad nostram plantam satis clarè referri nequeunt.* Drakena radix. *Clus. Exot. p.* 83. *J. Bauh. Hist. vol.* ii. *p.* 740. *Gerard. Emac. p.* 1621. *Raii Hist. p.* 1339. Contrayerva Hispanorum sive Drakena radix. *Park. Theat. p.* 421. *Pro matre radicis contrayervæ in medicina vulgo usitatæ, ex vivis speciminibus cl.* Houstoun *duas dorsteniæ species descripsit,* 1° Dorstenia Dentariæ radice, sphondylii folio, placenta ovali, 2° Dorstenia Dentariæ radice, folio minus laciniato, placenta quadrangulari et undulata. (*Phil. Trans. vol.* 37. *p.* 196. & 197.). Vel Dorstenia Drakena, et D. Houstoni. *Lin. Syst. Veg.*

Class Tetrandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 158.

Ess. Gen. Ch. Receptac. commune 1-phyllum, carnosum, in quo semina nidulantur.

Sp. Ch. D. scapis radicatis, fol. pinnatifido-palmatis serratis, receptaculis quadrangulis.

THE root is perennial, tapering, unequal, compact, rugose, externally brown, internally whitish, and furnished with numerous fibres: the leaves are various, of an irregular shape, lobed, serrated, or rather dentated, pointed, veined, and placed upon long radical footstalks, which are winged towards the leaves: the scapi, or flower-stems, are round, rough, simple, rise several inches in height, and each supports an irregular quadrangular receptacle, which contains the necessary parts of fructification: the flowers on examination were discovered to be distinctly male and female,

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immersed in the common receptacle, and occupying the whole of its disc; the former consisted but of two slender short filaments, with yellow antheræ;† the latter of a roundish germen, supporting a simple style, terminated by an obtuse stigma: the capsule, when ripe, possesses an elastic power, by which the seed is thrown out with considerable force.[a]—It is a native of South America and some of the West India Islands.‡

This plant is extremely scarce in Europe: the annexed figure of it was taken from a plant now in the Royal garden at Kew, where it was lately introduced, and is, we believe, the first of this kind that ever grew in England.[b] It does not sufficiently appear from what authority Linnæus gives the Dorstenia Contrajerva. The London College has however adopted it in the list of the Mat. Med. and in compliance with this we have figured the plant; at the same time we must acknowledge, that, upon the faith of Dr. Houston, who examined the Contrayerva plants in their native soil,[c] we should otherwise have had no doubt in referring the officinal radix contrayervæ to the species he has described, as has been done by Bergius[d] and Murray.[e] But as Houston has observed, that the roots of different species of Dorstenia are promiscuously gathered and exported for those of the Contrayerva; and as all the species bear a great resemblance to each other, we conceive the further discussion of this subject to be of no material consequence. Nich. Monardus,[f] almost two centuries ago, first makes mention of the plant called Contrayerva; and as this name is of Spanish

† This plant cannot therefore be properly said to belong to the class *tetrandria.*

[a] Vide Jacquin. l. c.

‡ Jacquin found it growing on the island of Martinico. Vide l. c.

[b] We do not find any species of the Dorstenia mentioned in the *Hort. Kew.* lately published.

[c] The first species on the high ground near Old Vera Cruz: and the second on the high rocky ground about Campechy in the year 1730. *Phil. Trans. vol.* 37. *p.* 197.

[d] *Mat. Med. p.* 73. [e] *App. Med. vol.* 4. *p.* 572.

[f] Vide Clusius *Exot. p.* 311.

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origin, signifying an antidote to poison, it might apply to any other plant supposed to possess this power. We are told by Clusius, that he received from Sir Francis Drake some roots which were brought from Peru, where they were highly valued, and reported to counteract the effects of every kind of poison, of which the leaves of the same plant were said to be one. This root, in compliment to the circumnavigator, he named Drakena radix, and is generally thought by botanists to be that of Contrayerva. The generic name, Dorstenia, was first used by Plumier,[g] and afterwards by Linnæus, who makes four species of this genus.

The root of Contrayerva has a peculiar kind of aromatic smell, and a light astringent warm bitterish taste, and on being long chewed it discovers somewhat of a sweetish sharpness. According to Lewis, "Contrayerva root gives out its virtue, by the assistance of heat, both to water and rectified spirit, and tinges the former of a dark brownish red, the latter of a brighter reddish colour: the watery decoction is very mucilaginous, so as not to pass through a filter."[h]

The antipoisonous virtues formerly attributed to this root, have been long very justly exploded as entirely chimerical, so that it is now merely employed as a diaphoretic of a moderately stimulant kind, being possessed of less pungency than any other of those medicines usually denominated alexipharmic. Putrid and nervous fevers are the diseases in which Contrayerva is chiefly used, conformably to the practice of Huxham and Pringle, whose works are well known to all our medical readers.

[g] *Nov. gen. plant.* [h] Lewis *Mat. Med.*

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URTICA DIOICA. COMMON NETTLE.

SYNONYMA. Urtica. *Pharm. Lond. & Edinb.* Urtica urens maxima. *Bauh. Pin. p.* 232. Urtica urens. *Gerard. Emac. p.* 706. Urtica major vulgaris & media sylvestris. *Park. Theat. p.* 440. Urtica racemifera major perennis. *Raii Synop. p.* 139. *Hist. p.* 160. Urtica stirpibus sexu distinctis, foliis serratis ovato-lanceolatis productis. *Hal. Stirp. Helv. n.* 1614. Urtica dioica. *Huds. Ang. p.* 417. *Lightf. Scot. p.* 578. *Withering Bot. Arr. p.* 1071. *Con. Flor. Dan. p.* 746. *Curt. Flor. Lond.*

Class Monoecia. *Ord.* Tetrandria. *Lin. Gen. Plant.* 1054.

Ess Gen. Ch. Masc. Cal. 4-phyllus. *Cor.* 0. *Nectarium* centrale, cyathiforme.

Fem, Cal. 2-valvis. *Cor.* 0. *Sem.* unicum, nitidum.

Sp. Ch. U. foliis oppositis cordatis, racemis geminis.

THE root is perennial, creeping, yellowish, furrowed, tough, and supplied with joints, from which proceed many fibres: it sends up several stalks, which are erect, very little branched, obtusely quadrangular, furrowed, purplish, beset with rigid hairs, and usually rise from two to four feet in height: the leaves are heart-shaped, pointed, widely serrated, wrinkled, veined, covered with sharp stinging hairs, and stand oppositely upon slender footstalks: at the base of the leaf-stalks there are four stipulæ, which are narrow, spreading, and on the underside channelled: the flowers are dioicous, or male and female on different plants, growing in branched pendulous hairy racemi, or clusters of four together: the calyx of the male flower is cut into four small egg-shaped obtuse segments: there is no corolla: the nectarium is turbinated, almost transparent, blunt, perforated at the top, and placed in the

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centre of the flower: the filaments are four, tapering, of the length of the calyx, and furnished with two-celled antheræ: the calyx of the female flower is composed of two valves, which are egg-shaped, concave, erect, and permanent: there is no corolla: the germen is oval, without a style, but supplied with a woolly stigma: the seed is single, compressed, blunt, shining. It is very common about old walls, sides of roads, and ditch banks, flowering in July.

The Urtica[a] is well known; and though generally despised as a noxious weed, has been long used not only for medical but for culinary and œconomical purposes.[b] As a styptic it was formerly much used; and we are told of various hæmorrhagic affections in which it was successfully employed. It is also said to manifest a diuretic character, and to be useful in calculous complaints, scurvy, gout, jaundice, &c. But these accounts have little credit, and the nettle is now considered as a simple oleraceous plant, and when young is found to be a good substitute for greens, or other pot-herbs.

The sharp hairs[c] upon the fresh leaves of nettles readily enter the skin, and thereby produce considerable irritation and inflam-

[a] "Urtica, ab urendo dicta, quod pruritum & pustulas igni similes excitet." *Bauh. Pin.*

[b] "The young shoots, in the spring, are boiled and eaten by the common people instead of cabbage-greens. *Lightf. l. c.* The stalks may be dressed like flax or hemp for making ropes, nets, cloth, paper, &c. a practice not uncommon in some parts of Russia and Siberia. Vide Falk, *Beyträge zur topogr. Kenntniss des Russ. Reichs, vol. 2. p. 254. Vet. Acad. Handl.* 1747. *p.* 59. *Petersb. Journ.* 1778. *p.* 370. and others. The Nettle is said to be poisonous to frogs; for if the plant be thrown into a vessel where these animals are confined, they soon begin to swell, and in a few days perish. Vide *Hagström Svar om Biskötsel, p.* 150.

[c] The stings are very curious microscopic objects: they consist of an exceedingly fine pointed tapering hollow substance, with a perforation at the point, and a bag at the base. When the sting is pressed upon, it readily punctures the skin, and the same pressure forces up from the bag an acrimonious fluid, which instantly enters into the wound, and excites a burning inflammation. See Hooke, *Discoveries by the microscope, p.* 22. *tab.* 12. Guettard, *Mem. de L'Acad. de Sc. de Paris,* 1751. *p.* 350.

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mation, and therefore have been employed in the way of a rubifacient, a practice which is termed urtication, and found of advantage in restoring excitement in paralytic limbs,[d] or in other cases of torpor or lethargy.[e]

[d] *Celsus ed. Kraus. p.* 179.

[e] Scopoli *Fl. Carn. ed.* 1. *p.* 428. Aretæus *curat. acut. lib. i. cap.* 2. *ed. Boerh. p.* 80. H. Piso in *Spicileg. curat. p.* 6. 9. Languentis veneris incitamentum recentis Urticæ olim fuere, quorsum respicit Petronius, *(Satiricon ed. De Salat. p.* 84*)* (alii que) Vid. *Murray App. Med. vol.* 4. *p.* 592.

ULMUS CAMPESTRIS. COMMON ELM.

SYNONYMA. Ulmus. *Pharm. Lond. & Edinb.* Ulmus campestris et Theophrasti. *Bauh. Pin. p.* 426. Ulmus vulgaris. *Park. Theat. p.* 1404. Ulmus vulgatissima folio lato, scabro. *Gerard. Emac. p.* 1480. *Raii Hist. p.* 1425. *Synop. p.* 468. *Hall. Stirp. Helv. n.* 1586. U. campestris. *Hudson. Flor. Ang. p.* 109. *Withering Bot. Arr. p.* 258. *Relhan. Flor Cant. p.* 106. *Ic. Flor. Dan.* 632. *Evelyn's Sylva by Hunter. p.* 118.

Class Pentandria. *Ord.* Digynia. *Lin. Gen. Plant.* 316.

Ess. Gen. Ch. Cal. 5-fidus. *Cor.* nulla. *Bacca* exsucca, compresso-membranacea.

Sp. Ch. U. foliis duplicato-serratis; basi inæqualibus.

THIS is very common in the neighbourhood of London, where it grows to a considerable height, sends off strong branches, and is covered with rough cracked brown bark: the leaves are ovate, rough, doubly serrated, and stand alternately upon strong footstalks: the flowers appear before the leaves, on short spikes at the bottom of the leaf-buds: the calyx is turban-shaped, wrinkled,

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permanent, and divided at the border into five segments: there is no corolla: the five filaments are tapering, twice as long as the calyx, and furnished with short upright antheræ, marked with four furrows: the germen is round, compressed, upright, and supports two styles, which bend outwards, and are terminated by downy stigmata: the fruit is an oval large berry, which is without juice, and of a membranous texture: the seed is round, but somewhat compressed.

This tree, of which there is one variety with smaller leaves, and another with smooth leaves, grows plentifully in Worcestershire and Middlesex, but is said not to be found to the north of Stamford.

The inner tough bark, which is directed for use by the Pharmacopœias, has no remarkable smell, but has a bitterish taste, and abounds with a slimy juice, which has been recommended in nephritic cases, and externally as a useful application to burns. The external bark is brittle, contains but little mucilage, and is wholly destitute of both smell and taste. The internal bark of the branches is more bitter than that of the trunk, and therefore probably more efficacious.

The complaints for which it is chiefly recommended, are those of the cutaneous kind allied to herpes and lepra. Dr. Lysons[a] mentions five cases of inveterate eruptions, both dry and humid, or those forming incrustations, which were successfully treated by a decoction of this bark, prepared from four ounces of it taken fresh, and boiled in two quarts of water to one; of this the patients were usually directed to drink half a pint twice a day. But as he added nitre to the decoction, and also frequently had recourse to purgatives, it may be doubted if these cures ought to be wholly ascribed to the Elm bark.

Dr. Lettsom[b] found this bark most effectual in what he supposes to be the lepra ichthyosis of Sauvages, in which it succeeded after

[a] See *Med. Transactions, vol. ii. p.* 203.

[b] See *Medical Memoirs, p.* 152.

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all the medicines usually employed in such cases had failed. A remarkable instance of its efficacy also in lepra vulgaris, affecting the whole body, is related by Banau;[c] who proposes the use of Elm bark in various other diseases, as fluor albus, rheumatism, old ulcers, cancerous and scrophulous affections, tinea capitis, scurvy, &c. In very obstinate cases it is necessary to persevere in the use of the decoction for some months.

[c] See *Journ. de Paris*, 1783. *n.* 255.

MORUS NIGRA. COMMON MULBERRY TREE.

SYNONYMA. Morum. *Pharm. Lond.* Morus fructu nigro. *Bauh. Pin. p.* 459. Morus. *Gerard, Emac. p.* 1507. Morus nigra. *J. Bauh. Hist. vol. i. p.* 118. *Raii Hist. p.* 1429. *Park. Parad. p.* 596. *Du Hamel Traité des arbres fruitiers, tom. i. p.* 335. *Hunt. Evel. vol. ii. p.* 39.

Class Monoecia. *Ord.* Tetrandria. *Lin. Gen. Plant.* 1055.

Ess. Gen. Ch. *Masc. Cal.* 4-partitus. *Cor.* 0.
Fem. Cal. 4-phyllus. *Cor.* 0. *Styli* 2. *Cal.* baccatus. *Sem.* 1.

Sp. Ch. M. foliis cordatis scabris.

THIS tree never grows to a considerable height, but sends off several crooked branches, and is covered with rough brown bark: the leaves are numerous, heart-shaped, serrated, veined, rough, of a bright green colour, and stand upon short footstalks: the flowers are male and female upon the same tree:[a] the *male flowers* are placed in close roundish catkins, each floret composed of a calyx,

[a] This is not constantly the case, as it sometimes happens that all the flowers are male, or female, and consequently barren.

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divided into four leaves, which are oval, concave, and erect: there is no corolla: the filaments are four, longer than the calyx, and furnished with simple antheræ: the calyx of the *female flower* is divided into four obtuse persistent segments: there is no corolla: the germen is roundish, and supports two rough styles, supplied with simple stigmata: the fruit is a large succulent berry, composed of a number of smaller berries, each containing an oval seed, and affixed to a common receptacle. It flowers in June, and its fruit ripens in September.

The Mulberry-tree is a native of Italy, and is now cultivated in most parts of Europe,[b] not only for the grateful fruit which it affords, but in many places for the more lucrative purpose of supplying Silk-worms with its leaves, upon which they feed.[c]

The ripe fruit abounds with a deep violet-coloured juice, which in its general qualities agrees with that of the other acido-dulces, allaying thirst, partly by refrigerating, and partly by exciting an excretion of mucus from the mouth and fauces; a similar effect is also produced in the stomach, where, by correcting putrescency, a powerful cause of thirst is removed.[d] This is more especially the case with all those fruits in which the acid much prevails over the saccharine part, as the currant, which we have already noticed;[e] and to which the medicinal qualities of this fruit may be referred; but both these, and most of the other summer fruits, are to be considered rather as articles of diet than of medicine. The London College directs a syrupus mori, which is an agreeable vehicle for various medicines.

[b] Gerard is the first who is known to have cultivated it in England.

[c] The leaves of the white Mulberry are preferred for this purpose in Europe; but in China, where the best silk is made, the silk worms are fed with those of the Morus tartarica. (Forster, in a letter to Professor Murray. See *App. Med. vol. iv. p.* 597. *dated* 1787.) From the bark of another species of Mulberry, (M. Papyrifera) the Japanese make paper, and the inhabitants of some of the islands of the South Sea make a kind of cloth.

[d] See Cullen's account of the fructus acido-dulces. *Mat. Med. vol. i. p.* 242.

[e] Page 535, vol. 4. See also Rubus and Citrus.

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The bark of the root of the Mulberry-tree has an acrid bitter taste, and possesses a cathartic power. It has been successfully used as an anthelmintic, particularly in cases of Tænia.[f] The dose is half a dram of the powder.

[f] Vide, Andry, *de la generation des vers, &c. p.* 172.

FICUS CARICA. COMMON FIG-TREE.

SYNONYMA. Carica. *Pharm. Lond. & Edinb.* Ficus communis. *Bauh. Pin. p.* 457. Ficus vulgaris. *Park. Theat. p.* 1494. Ficus. *Gerard. Emac. p.* 1410. *Raii Hist. p.* 1531. Ficus Carica. *Miller Illust. Syst. sex. Du Hamel Traité des arbres Fruitiers. tom. i. p.* 207. *tab.* 1. 2. Bernard in *Obs. sur la physique, l'hist. nat. &c. tom.* 29. *tab.* 1. Συκη *Græc.*

Class Polygamia. *Ord.* Trioecia. *Lin. Gen. Plant.* 1168.

Ess. Gen. Ch. Receptaculum commune turbinatum, carnosum, connivens, occultans flosculos vel in eodem vel distincto.

Masc. Cal. 3-partitus. *Cor.* 0. *Stam.* 3.

Fem. Cal. 5-partitus. *Cor.* 0. *Pist.* 1. *Sem.* 1.

Sp. Ch. F. foliis palmatis.

THE Fig-tree is covered with smooth brown bark, and sends off many spreading branches: the leaves are large, succulent, smooth, irregularly divided into five lobes, of a deep green colour, and stand upon strong footstalks. The fruit, in its early stage, serves as the common receptacle, and contains upon its inner surface all the florets, which are both male and female; the former has the calyx (proper) divided into three segments, which are lance-shaped, erect, and equal: there is no corolla: the filaments are

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three, bristly, of the length of the calyx, and furnished with double antheræ. The calyx (proper) of the *female flower* is divided into five segments, which are pointed, and nearly equal: there is no corolla: the germen is oval: the style is tapering, inflexed, and furnished with two pointed reflexed stigmata: the calyx is oblique, and contains in its bosom a roundish compressed seed. It is a native of the south of Europe, and commonly produces its flowers in June and July.

From history, both sacred and profane, the Fig-tree appears to have been known in the most early times. It has been long cultivated in England, and if screened from the north-east winds, commonly ripens its fruit here. The Fig, which has always been found a wholesome food, was by the ancients [a] ripened or brought to perfection by caprification; a practice which in some countries is still continued.[b] It had been observed, that the fruit of this tree frequently withered and dropped off before it arrived at a state of maturity, and upon examination it was discovered that those figs succeeded best which had been perforated by certain winged insects, which therefore were supposed to be instrumental in ripening the fruit. This gave rise to caprification, which formerly consisted in tying near the young figs the fruit of the wild fig tree, in which the flies above mentioned breed in abundance, and these insects, upon acquiring sufficient strength, issue from the wild fruit, and by penetrating the young figs produce the effect intended. That this insect, which by the ancients was called Psenes, or Culex, and by Linnæus, Cynips Psenes, produced this desirable effect, is generally admitted; but how it is to be explained has been the subject of some dispute.

To prevent ripe Figs from running into putrefaction, it is usual to dry them; which may be done either by the heat of the sun,

[a] See *Theophrastus*, *Suidas*, *Pliny*, and others.

[b] Caprification, as practised at some of the Archipelago Islands, when visited by Tournefort, appears to be a very curious but troublesome business. See *Tournefort*, *Voyage du Levant*, *vol. i. p.* 130.

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or by means of an oven: the latter way is preferred, especially when the fruit has been caprified, as the larva of the cynips is destroyed by the heat. The best figs are imported from the southern parts of Europe in small chests, and are compressed into a circular form, of a yellowish colour, and filled with a viscid sweet pulp, in which are lodged numerous small yellow lenticular seeds. The surface of the Figs is commonly covered with a saccharine matter, which exudes from the fruit, and hence they have been named *Caricæ pingues*, or fat Figs.

The recent fruit, completely ripe, is soft, succulent, and easily digested, unless eaten in immoderate quantities; when it is apt to occasion flatulency, pain of the bowels, and diarrhœa.[c] The dried fruit is pleasanter to the taste, and is more wholesome and nutritive. Figs are supposed to be more nutritious, by having their sugar united with a large portion of mucilaginous matter, which, from being thought to be of an oily nature, has been long esteemed an useful demulcent and pectoral; and it is chiefly with a view to these effects that they have been medicinally employed.

Figs are directed by the London Pharm. in the decoctum hordei compositum, and in the electuarium lenitivum. Externally applied they are supposed to promote the suppuration of tumours, and hence have a place in maturating cataplasms; with this intention they are also sometimes used by themselves, as warm as they can easily be borne, to phlegmons of the gums, and other parts where a poultice cannot conveniently be applied.

[c] *Murray, App. Med. vol. iv. p. 585.*

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ORD. XLII. VEPRECULÆ.

(Dim. from *vepres*, a briar, or bramble.)

Plants somewhat resembling a briar.

DAPHNE MEZEREUM. MEZEREON.

SYNONYMA. Mezereum. *Pharm. Lond. & Edin.* Thymelæa spica cylindrica, superne foliosa. *Hal. Stirp. Helv.* n. 1024. Chamelæa Germanica. *Dodon. Purg.* p. 130. Chamelæa Germanica sive Mezereon. *Gerard. Hist.* 1402. *Park.* 201. *Raii Hist.* 1587. Laureola folio deciduo, flore purpureo; officinis Laureola fœmina. *Bauh. Pin.* 462. Daphnoides. *Camer. Epit.* 937. Daphne floribus sessilibus, infra folia elliptica lanceolata. *L. Fl. Lap.* 105. Daphne Mezereum, *Flor. Dan.* 268. *Withering's Bot. Arrang.* 402.

* Varietates sunt,

α Floribus rubris.

β Thymelæa Lauri folio deciduo, flore albo, fructu flavescente. *Du Hamel Arb.* 2. p. 325. n. 4. *Du Roi Hort.* 1. p. 213. Vide *Hort. Kew.*

Class Octandria. *Ord.* Monogynia. *L. Gen. Plant.* 485.

Ess. Gen. Ch. *Cor.* 4-fida corollacea marcescens, stamina includens. *Bacca* 1-sperma.

Sp. Ch. D. floribus sessilibus ternis caulinis, foliis lanceolatis deciduis.

* Dr. Russel found no difference in the effects of these varieties, by the trials he made with the rind, which is the only part of the root now in use.

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THE Mezereon is a hardy shrub, which usually grows to the height of five or six feet, and sends off several branches; the exterior bark is smooth, and of a grey colour; the root is of a fibrous texture, of a pale colour, and covered with smooth olive-coloured bark; the leaves are few, tender, lance-shaped, sessile, deciduous, and appear at the terminations of the branches after the flowers are expanded; the flowers surround the branches in thick clusters, they are sessile, monopetalous, tubular, having the limb divided into four oval spreading segments, commonly of a purple colour; the stamina are eight, alternately shorter, and concealed within the tube of the corolla; the style is very short, the stigma flat, and the germen, which is oval, becomes a reddish berry, containing a round seed. This shrub is a native of England, though not very common. It is said to grow plentifully in some woods near Andover in Hampshire, and also about Laxfield in Suffolk; but it is generally cultivated in gardens, on account of the beauty and earliness of its flowers, which appear in February and March.

This plant is extremely acrid, especially when fresh, and if retained in the mouth excites great and long continued heat and inflammation, particularly of the throat and fauces; the berries also have the same effects, and, when swallowed, prove a powerful corrosive poison, not only to man,[a] but to dogs,[b] wolves, foxes,[c] &c. The bark and berries of Mezereon, in different forms, have been long externally used to obstinate ulcers and ill-conditioned sores. In France the former is strongly recommended as an application to the skin, which under certain management[d] produces a

[a] Mulierculæ ruri baccas Coccumgnidii propinant in morbis rebellibus, sæpe effectu deleterio. Bergius M. M. p. 307. A woman gave twelve grains of the berries to her daughter, who had a quartan ague; she vomited blood, and died immediately. Wither. l. c. As the acrimony of these berrries is not immediately perceived upon being tasted, the ignorant and unwary are the more easily betrayed to swallow them.

[b] Haller l. c. [c] Lin. Fl. Lap. p. 105.

[d] As some may wish to try this practice, which is unknown to this country, and promises beneficial effects in several complaints, we shall briefly recite the usual mode in which it has been conducted:—A square piece of the recent bark, about

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continued serous discharge, without blistering; and is thus rendered useful in many chronic diseases of a local nature, answering the purpose of what has been called a perpetual blister, while it occasions less pain and inconvenience.

In this country the Mezereon is principally employed for the cure of some syphilitic complaints, and in this way Dr. Donald Monro was the first who gave testimony of its efficacy in the successful use of the Lisbon diet drink.[e] A few months after this, several cases were published by Dr. Russel, then physician to St. Thomas's Hospital, fully establishing the utility of the cortex mezerei in venereal nodes.[f] He says, "the disease for which I principally recommend the decoction of mezereon root as a cure, is the node, that proceeds from a thickening of the *membrane* of the bones, which appears to be the cause of the greatest part of those tumours, at least when recent.—In a thickening of the periosteum from other causes I have seen very good effects from it." But in the nocturnal pains, accompanying syphilis, unless occasioned by the node itself, he found it necessary to join a solution of sublimate to the decoction.[g] We may also remark,

an inch long, and three quarters of an inch broad, macerated a little in vinegar, is applied to the skin, over which is bound a leaf of ivy or plantane. This application is at first renewed night and morning till it cauterizes the part and brings on a serous discharge, when a renewal of the bark once in 24 hours is found sufficient to continue the issue for any length of time. By means of suitable plasters, we conceive that it might be applied behind the ears to relieve the eyes, and on a larger scale prove an useful practice in sundry diseases.—It must be observed however, that it sometimes produces cutaneous eruptions, which Bergius attributes to the absorption of the acrid particles of the bark. l. c. vide Essai sur l'usage & les effets de l'écorce du Garou.

[e] Ess. & observ. phis. & lit. p. 402. vol. 3.

[f] Med. Observ. & Inquir. vol. 3. p. 189.

[g] Dr. R. first joined sarsaparilla to the mezereon, but afterwards used the following only:

℞ Cort. rad. Mezerei ℥j

Aq. fontan. cong. iss.

Coc. ad cong. j sub fin. addend. rad. glycyrrhiz. incis. ℥j. dos. lbss quater in die. And by this many of the patients were entirely cured without ever taking mercury.

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that Dr. R. never found the decoction to increase any of the natural evacuations. Dr. Cullen observes, that "Dr. Home has not only found this decoction to cure scirrhous tumours, which remain after the lues venerea, and after the use of mercury, but that it healed also some scirrhous tumours from other causes; and that he has employed it in several cutaneous affections, and sometimes with success."[h]

The considerable and long continued heat and irritation that is produced in the throat when Mezereon is chewed, induced Dr. Withering to think of giving it in a case of difficulty of swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear it, and in about a month recovered her power of swallowing. This woman had suffered the complaint three years, and was greatly reduced, being totally unable to swallow solids, and liquids but very imperfectly.[i]

[h] M. M. vol. 2. p. 215.

[i] l. c.

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ORD. XLIII. PALMÆ.

ORD. XLIV. PIPERITÆ.

(From *Piper*, Pepper.)

Plants acrid, or Peppery to the taste.

PIPER NIGRUM. BLACK PEPPER.

SYNONYMA. Piper nigrum. *Pharm. Lond. & Edinb. Gerard Emac. p.* 1538. *Park. Theat. p.* 1603. Piper rotundum nigrum. *Bauh. Pin. p.* 411. *Raii Hist. p.* 1341. *Plukenet. Almag. p.* 297. *t.* 437. *fig.* 1. Piper nigrum. *Camel. Phil. Trans. vol.* 24. *p.* 1773. Molago codi. *Hort. Malab. vol.* 7. *p.* 23. *tab.* 12. Pepper Plant. *Marsden's History of Sumatra, p.* 105. *Ic. Miller's Illustr.*

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Ess. Gen. Ch. Cal. 0. *Cor.* 0. *Bacca* monosperma.

Sp. Ch. P. foliis ovatis septemnerviis glabris, petiolis simplicissimis.

THE root is perennial: the stems are round, smooth, jointed, swelling towards each joint, woody, slender, branched, scandent, or trailing, and from eight to twelve feet in length: the leaves are ovate, entire, smooth, seven-nerved, of a dark green colour, and stand at the joints of the branches upon strong sheath-like footstalks: the flowers are small, white, and produced in terminal

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spikes: there is no regular calyx nor corolla: the filaments also are wanting: the two antheræ are roundish, and placed oppositely at the base of the germen: the germen is ovate, upon which stand three rough stigmata: there is no style: the fruit is a single-valved berry, containing one round seed.

This species of Pepper grows spontaneously in the East Indies, but does not arrive at perfection without the aid of culture. It is cultivated with such success at Malacca, Java, and especially at Sumatra, that from these islands Pepper is exported to every part of the world, where a regular commerce has been established.

According to Mr. Marsden,[a] the ground chosen by the Sumatrans for a Pepper garden, is marked out into regular squares of six feet, the intended distance of the plants, of which there are usually a thousand in each garden. The next business is to plant the chinkareens, which serve as props to the Pepper vines, and are cuttings of a tree of that name, which is of quick growth. When the chinkareen has been some months planted, the most promising perpendicular shoot is reserved for growth, and the others lopped off; this shoot, after it has acquired two fathoms in height, is deemed sufficiently high, and its top is cut off. Two Pepper vines are usually planted to one chinkareen, round which the vines twist for support; and after being suffered to grow three years (by which time they acquire eight or twelve feet in height) they are cut off about three feet from the ground, and being loosened from the prop are bent into the earth in such a manner that the upper end is returned to the root. This operation gives fresh vigour to the plants, and they bear fruit plentifully the ensuing season. The fruit, which is produced in long spikes, is four or five months in coming to maturity: the berries are at first green, turn to a bright red when ripe and in perfection, and soon fall off if not gathered in proper time. As the whole cluster does not ripen at the same time, part of the berries would be lost in waiting for the latter ones; the Sumatrans therefore pluck the bunches as soon as any of

[a] See *l. c. p.* 107.

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the berries ripen, and spread them to dry upon mats, or upon the ground. By drying they become black, and more or less shrivelled, according to their degree of maturity. These are imported here under the name of *black pepper*.

White pepper[b] is the ripe and perfect berries stripped of their outer coats: for this purpose the berries are steeped for about a fortnight in water, till by swelling their outer coverings burst; after which they are easily separated, and the pepper is carefully dried by exposure to the sun. Pepper which has fallen to the ground over-ripe loses its outer coat, and is sold as an inferior kind of white pepper.

Of these pungent hot spices the black sort is the hottest and strongest, and most commonly made use of for medicinal as well as culinary purposes. They differ from most of the other spices in this, that their pungency resides not in the volatile parts, or essential oil, but in a substance of a more fixed kind, which does not rise in the heat of boiling water.[c] This fixed substance is probably the resinous part: the aromatic odorous matter seems to depend upon the essential oil. The distilled oil smells strongly of the pepper, but has very little acrimony; the remaining decoction, inspissated, yields an extract of considerable pungency. A tincture made in rectified spirit is extremely hot and fiery; a few drops of it set the mouth as it were in a flame.

Some have supposed Pepper to be less heating to the system than other aromatics; and the learned Gaubius asserts, that on taking it in large quantities he never found it to warm his stomach, nor to increase the frequency of his pulse.[d] But Dr. Cullen affirms, that when he took this spice, even in a small quantity,

[b] White Pepper was formerly thought to be a different species from the black, and was sold at the sales of the East India Company (who have the monopoly of the Sumatran pepper trade) for treble the price of the black. *Marsden, l. c.*

[c] Gaubius found that the Pepper required to be boiled forty-three times in fresh quantities of water before its whole pungency was extracted. *Adversar. p.* 52.

[d] *L. c. p.* 73.

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it always felt warm on his stomach, and heated his whole body; and he thinks it was owing to the frequent use of Pepper that Gaubius did not experience the same effects.[e]

Black Pepper is generally used as an aromatic and stimulant. It has been successfully employed in some cases of vertigo,[f] and paralytic and arthritic disorders.[g] Given in large doses it has been found a remedy for intermittents; but its use in these has, in some instances, produced fatal consequences.[h]

[e] *Mat. Med. vol.* 2. *p* 208.

[f] *Hoffman. Rem. domest.* §. 26. and others.

[g] *Obs. phys. & lit. vol.* 3. *p.* 449. [h] See *Act. Soc. Med. Hav. vol. i. p.* 386.

PIPER LONGUM. LONG PEPPER.

SYNONYMA. Piper longum. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1539. *Park. Theat. p.* 1604. *Raii. Hist. p.* 1343. *Rumph. Amb. vol.* 5. *p.* 333. *t.* 116. *f.* 2. *Pis. Mant. Aromat. p.* 182. *Clus. Exot. p.* 20. 183. Piper longum orientale. *Bauh. Pin. p.* 412. Piper longum pistolochiæ foliis absque pediculis, maderaspatanum. *Pluk. Alm. p.* 297. *t.* 104. *f.* 4. Cattu-tripali. *Rheed. Hort. Mal. V.* 7. *p.* 27. *t.* 14.

Class Diandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 43.

Ess. Gen. Ch. Cal. 0. *Cor.* 0. *Bacca* monosperma.

Sp. Ch. P. foliis cordatis petiolatis sessilibusque.

THE root is perennial: the stems are shrubby, round, smooth, branched, slender, and climbing; but do not rise to any considerable height: the leaves differ much in size and form; they are commonly heart-shaped, pointed, entire, smooth, nerved, of a deep green colour, and stand alternately upon footstalks: the

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flowers are small, and produced in short dense terminal spikes, which are nearly cylindrical: the parts of inflorescence, though less distinct, correspond with the description given of the former species. It is a native of the East Indies, especially Java, Malabar, and Bengal.

The berries, or grains, are very small, and lodged in a pulpy matter; like those of the black pepper they are first green, and become red when ripe. This fruit is hottest to the taste in its immature state, and is therefore gathered while green, and dried by the heat of the sun, when it changes to a blackish or dark grey colour.[a]

It is observed by Dr. Cullen, that Long pepper has precisely the same qualities with those of black, only in a weaker degree:[*] Bergius also judges black pepper to be hotter than this species; an opinion which appears to us unfounded, and the contrary is asserted by Lewis and Murray: the latter says, "Ad meum aliorumque quorundam sensum, in lingua acrius et calidius adhuc est Piper longum reliquis dictis speciebus."[b]

[a] *Rumph. l. c.*

[*] *Mat. Med. vol. ii. p.* 209. [b] *App. Med. vol.* 5. *p.* 36.

ACORUS CALAMUS. SWEET FLAG, Or ACORUS.

SYNONYMA. Calamus aromaticus. *Pharm. Lond. & Edinb.* Acorus verus, sive Calamus aromaticus officinarum. *Bauh. Pin. p.* 34. *Park. Theat. p.* 140. *Raii Hist. p.* 1313. *Synop. p.* 437. Acorus verus, officinis falsò Calamus. *Gerard. Emac. p.* 62. Acorus. *Hall. Stirp. Helv. n.* 1307. Acorus Calamus. *Hudson. Flor. Ang. p.* 147. *Withering. Bot. Arr. p.* 357. *Relhan. Flor. Cant. p.* 140. Thach xuog bô. *Flor. Cochin. p.* 208.

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Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 434.

Ess. Gen. Ch. *Spadix* cylindricus, tectus flosculis. *Cor.* 6-petalæ, nudæ. *Stylus* nullus. *Caps.* 3-locularis.

Sp. Ch. A. scapi mucrone longissimo foliaceo. *Hort. Kew.*

THE root is perennial, horizontal, crooked, pointed, fibrous, somewhat compressed, about an inch thick, externally yellowish, with a greenish tinge, rugose, internally whitish, and of a spongy texture: the leaves are long, sword-shaped, sheathing one another, and commonly undulated on one side: the flowers are small, numerous, and produced on a spadix or conical spike at the edge of the leaf: there is no calyx: the corolla is composed of six petals, which are small, membranous, concave, and appear truncated: the six filaments are thick, somewhat longer than the petals, and furnished with double antheræ: the germen is gibbous, oblong, without a style, and terminated by a pointed stigma: the capsule is oblong, triangular, and divided into three cells, containing numerous oval seeds.

According to Linnæus, this is the only true aromatic plant indigenous to northern climates. It is common in many parts of England, and usually grows in stagnant waters, and the sides of rivers, producing its flowers in May and June.

The roots of Calamus aromaticus have been long medicinally employed,[a] and were formerly imported here from Asia and the Levant; but those of English growth are now very generally substituted, and found to be little or nothing inferior to the exotic sort, which is merely a variety of the same species.[b]

The root, in its dried state, has a moderately strong aromatic smell, and a warm pungent bitterish taste. Water is found to extract the bitter matter of the root most completely, and rectified

[a] The virtues of Calamus aromaticus are noticed both by the Greeks and Arabians. See *Dios. L.* 1. *c.* 2. *Alpin. p.* 141.

[b] Vide. *Lin. Sp. Pl. p.* 462.

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spirit that of the aromatic. It imparts its virtues to water in distillation along with a small quantity of essential oil, amounting only to two ounces from fifty pounds of the root, according to Hoffman; but Neuman and Cartheuser obtained the oil in a much larger proportion.

The root of Calamus, though not heating like the spices, manifests to the taste considerable pungency, and a moderate share of bitterness, and has therefore been deemed useful as a warm stomachic, and was formerly much used here in combination with the more simple bitters, which, by this addition, were rendered more grateful and carminative. It has been recommended in vertigo, proceeding from a vitiated stomach,[c] and in intermittent fevers, which we are told were cured by this root, after the bark had failed.[d] We are also informed of its efficacy in scorbutic and hæmorrhagic complaints;[e] but to this, little credit will be given, and much less to the supposed elexipharmic power of Calamus, though it is an ingredient in the theriaca and mithridate of dignified memory, and still is much used in eastern countries as a preservative against contagion.

[c] *De Mayerne. Prax. Med. p.* 59. [d] *Act. Societ. Med. Havn. vol. p.* 206.

[e] See *Murray App. Med. v.* 5. *p.* 42.

ARUM MACULATUM. COMMON ARUM, or WAKE-ROBIN.

SYNONYMA. Arum. *Pharm. Lond. & Edin.* Arum foliis sagittatis, spatha recta, clava cylindrica. *Hal. Stirp. Helv.* n. 1302. Arum minus. *Camerar. Epit.* p. 367. Arum maculatum et vulgare non maculatum. *Bauh. Pin.* 195. Arum vulgare maculatum et non maculatum. *Park.* 372. Arum vulgare. *Gerard. H.* 834. *Rait Hist.* 1208. *Wake-Robin Cuckow-pint. Raii Synop.* 266. Arum Maculatum. *Flor. Dan.* 505. *Flor. Lond. Withering's Bot. Arrang.* 1012. *Relhan's Flor. Cant.* 342.

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Varietates sunt.

α Arum vulgare non maculatum. *Bauh. Pin.*
β Arum maculatum, maculis candidis, vel nigris. *Bauh. Pin.*
γ Arum *italicum,* foliis hastatis acutis, petiolis longissimis, spatha maxima erecta. *Mill. Dict.*

Class Gynandria. *Ord.* Polyandria. *L. Gen. Plant.* 1028.

Ess. Gen. Ch. *Spatha* monophylla, cucullata. *Spadix* supra nudus, inferne femineus, medio stamineus.

Sp. Ch. A. acaule, foliis hastatis integerrimis, spadice clavato.

THE root is perennial, tuberous, about the size of the thumb, sending off many long simple fibres: the leaves are commonly three or four, growing from each root; these are arrow-shaped, of a deep green or purplish colour, beset with many veins and dark spots, and stand upon long grooved and somewhat triangularly shaped footstalks; the flower stalk is very short and channelled; the calyx is a sheath of one leaf, large, oval, nerved, and enclosing the spadix, which is round, club-shaped, fleshy, above of a purple colour, below whitish, standing in the centre of the sheath, and supporting the parts necessary to fructification: on tracing it towards the base we first discover the nectaries, or several oval corpuscles, which are terminated by long tapering points; next to these are placed the antheræ, which are quadrangular, united, and of a purple colour; under these we find again more nectaries, and lastly the germina, which are very numerous, round, without styles, and crowned with small bearded stigmata. This curious species of inflorescence displays itself early in spring, but the berries do not ripen till late in the summer, when they appear in naked clusters, of a bright scarlet colour, making a conspicuous appearance under the hedges, where they commonly grow.

[Arum, by a modern botanist, is arranged under the class Monœcia.]

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The root is the medicinal part of the plant, which in a recent and lactescent state is extremely acrimonious, and upon being chewed excites an intolerable sensation of burning and pricking in the tongue, which continues for several hours: when cut in slices and applied to the skin, it has been known to produce blisters. This acrimony, however, is gradually lost by drying, and may be so far dissipated by the application of heat, as to leave the root a bland farinaceous aliment;[a] its medical efficacy therefore resides wholly in the active volatile matter, and consequently the powdered root must lose much of its power on being long kept, a circumstance which very properly caused the omission of the Pulvis ari compositus in the last edition of our Pharmacopœia. Lewis says, "the fresh and moderately dried roots were digested in water, in wine, in proof spirit, and in rectified spirit, with and without heat: the liquors received no colour, and little or no taste. In distillation neither spirit nor water brought over any sensible impregnation from the Arum. The root, nevertheless, loses in these operations almost the whole of its pungency."[b] The qualities of this root are thus enumerated by Bergius: "Virtus *recent. siccatæ:* stimulans, aperiens, incidens, diuretica; *recentis* vehementissima; *annosæ* ‖ nutriens."[c]—Dr. Cullen[d] seems to consider it as a general stimulant, not only exciting the activity of the digestive powers, where they happen to be languid, but stimulating the whole system; in proof of this he observes, that it has been useful in intermittent fevers. Arum, by ancient writers, is

[a] In this state it has been made into a wholesome bread. It has also been prepared as starch. The root, dried and powdered, is used by the French to wash the skin with, and is sold at a high price, under the name of *Cypress Powder:* It is undoubtedly a good and innocent cosmetic. Withering l. c.——These roots are said to possess a saponaceous quality, and have been used in washing linen, to supply the place of soap. Raii Hist. p. 1208.

[b] Lewis M. M. 119. [c] M. M. 722. [d] M. M. vol. ii. 212.

‖ Tales radices Ari annosæ vix acres sunt, prout supra monuimus, & quæ restare potest acrimonia, mitigatur penitus ebullitione. Cæterum plures Ari species apud varias gentes esculentæ sunt. Nutriunt omnes suo farinoso. Bergius, l. c.

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much commended, both as an external and as an internal remedy, and is said that " Ratione particularum tenuium & volatilium mucum viscidum & spissum ventriculi & intestinorum parietibus adhærentem potenter incidit, attenuat, atque resolvit;" and was prescribed in all that numerous class of diseases formerly supposed to proceed a succorum lentore. Bergius considers it useful in Colluvies pituitosa, Anorexia, Cephalæa sympatica,[e] Asthma humorale, Cachexia, Febris intermittens. Arum is certainly a very powerful stimulant, and by promoting the secretions may be advantageously employed in cachectic and chlorotic cases, in rheumatic affections, and in various other complaints of phlegmatic and torpid constitutions; but more especially in a weakened or relaxed state of the stomach, occasioned by the prevalence of viscid mucus. If this root is given in powder, great care should be taken that it be young and newly dried, when it may be used in the dose of a scruple or more twice a day: but in rheumatisms and other disorders requiring the full effects of this medicine, the root should be given in a recent state, and to cover the insupportable pungency it discovers on the tongue, Dr. Lewis advises us to administer it in the form of emulsion, with gum arabic and spermacæti, increasing the dose from ten grains to upwards of a scruple three or four times a day; in this way " it generally occasioned a sensation of slight warmth about the stomach, and afterwards in the remoter parts manifestly promoted perspiration, and frequently produced a plentiful sweat. Several obstinate rheumatic pains were removed by this medicine, which is therefore recommended to further trial."

[e] Bergius speaks highly of the efficacy of Arum in these headachs, which were of the most violent kind, and resisted all the means he employed, till he used the powder of this root, which never failed to relieve them.

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ORD. XLV. SCITAMINEÆ.

(From *Scitamentum*, meat of a pleasant taste.)
All this order consists of beautiful exotics.

AMOMUM ZINGIBER. NARROW-LEAVED GINGER.

SYNONYMA. Zingiber, *Pharm. Lond. & Edinb.* Amomum Zingiber, *Jacquin Hort. Vindob. vol.* 1. *t.* 75. Zingiber, *Browne's Jam.* 119. *Sloane's Jam.* 1. *p.* 163. Inschi. *Rheed. Mal.* Z. angustiori folio, &c. *Pluk. Alm.* Zingiber Majus, *Rumph. Amb.* 5. *p.* 156. Ζιγγιβερις, *Dioscorid.* Ζιγγιβερι, *Galen.*

Class Monandria. *Order.* Monogynia. L. *Gen. Plant.* 2.

Ess. Gen. Ch. *Cor.* 4-fida: lacinia prima patente.

Sp. Ch. A. scapo nudo, spica ovata.

THE root is perennial, firm, knotted, of a compressed roundish form, beset with transverse rugæ, covered with ash coloured bark, partly of a purplish tinge, and sends forth many long fibres and off-sets; the internal substance of the younger roots is softish, fleshy, and greenish; of the older, it is compact, fibrous, whitish, and when powdered has a yellowish appearance: the stalks are about three feet high, round, inclosed in an imbricated membraneous sheathing; the leaves are sword-shaped, smooth, pointed, entire, and stand alternately upon the sheathes of the stalk; the

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scapus, or flower-stem, rises about a foot high, it is erect, round, alternately sheathed like the stalks, without leaves, and terminates in an oval, obtuse, bracteal, imbricated spike; the corollæ, or flowers, appear between the bracteal scales of the spike, two or three at a time; they are of a dingy yellow colour, monopetalous, tubular, and cut into three unequal, acute, segments, which have their points curled backwards; the nectary occupies the faux or mouth of the tube of the corolla, and has a bilabiated appearance; the lip is obtusely trifid, of a reddish purple colour, and marked with many yellowish dots: but what seems like the upper lip is the stamen, or filament, which is convex outwardly, concave within, and gradually tapers from its base to its apex, where it is coloured like the nectary. The antheræ are two, oblong, whitish, and lodged together in the cavity of the stamen: the style is long and filiform: the stigma obtuse and villous: the capsule is three-celled, and contains many seeds.

The Ginger plant is a native of the East Indies,[a] and is said to grow in the greatest perfection on the coast of Malabar and Bengal;[b] but it is now plentifully cultivated in the warmer parts of America,‡ and in the West-India islands, from whence chiefly it is imported into Europe. In 1731, it was first introduced into

[a] The following observation, made by Rumphius, seems however to deserve some notice: Quondam omne Zingiber petebatur ex illa Africæ parte, quæ mari rubro adjacet tam intra quam extra illud, tum Arabia Trogloditica dicta, cujus incolæ hodie ab Arabibus vocantur *Zingi* seu *Zangi* h. e. nigri seu adusti Æthiopes, unde & nomen Zingiber seu Zingibel ortum duxit, ac si disceretur, dadices ex Æthiopia, atque hinc jam innotuit antiquis etiam scriptoribus, uti *Dioscorid. lib.* 2. *cap.* 154. *Galeno. lib.* 6. *med. simp.* ubi dicit Zingiber deferri ex Barbaria, per quam vocem intelligenda est orientalis Africæ plaga. vide Herb. Amboin. vol. v. p. 157. [b] Rumph. l. c.

‡ India Orientali per Hispanos ac præsertim per Franciscum de Mendosa, filium imperatoris Anthonii de Mendosa cum aliis aromaticis herbis in novam Hispaniam deductum est, *teste Monardo simp. Medic. cap.* 18. Rumphius, l. c.—Upon the death of Mendosa, these plants were neglected, and all lost but the Ginger. Ginger is said by some to grow wild in America, but Jacquin says, "Sylvestrem in America non vidi."

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this country by Mr. P. Miller,[c] and is still carefully cultivated in the dry stoves of the curious. The flowers have a sweet fragrant smell, and the leaves and stalks, especially when bruised, also emit a faint spicy odour, but the hot acrid aromatic taste is entirely confined to the root.

" In Jamaica Ginger attains its full height, and flowers about August or September, and fades about the close of the year. When the stalks are entirely withered, the roots are in a proper state for digging: this is generally performed in the months of January and February. After being dug, they are picked, cleansed, and gradually seethed, or scalded in boiling water; they are then spread out, and exposed every day to the sun, till sufficiently dried; and after being divided into parcels of about 100 lb. weight each, they are packed in bags for the market: this is called the Black Ginger."[d] White Ginger is the root of the same plant, but instead of the roots being scalded, by which they acquire the dark appearance of the former, each root is picked, scraped, separately washed, and afterwards dried with great care; of course more than a double expense of labour is incurred, and the market price is proportionably greater.* Black Ginger loses part of its essential oil by being thus immersed in boiling water;[e] on this account it is less useful for medical and other purposes than the white, which is always good when perfectly sound and free from worm-holes: but that imported from the East-Indies is stronger than any we have from Jamaica. Ginger gives out its virtues perfectly to rectified spirit, and in a great measure to water. According to Lewis,[f] its active principles are of a remarkably

[c] Aiton's Hort. Kewen.

[d] Long's History of Jamaica, p. 700.

* Rumphius remarks also, " Rubræ speciei radices crassiores sunt, magisque nodosæ, externe plerumque cinerea primum, atque sub hac purpurea rubente obductæ pellicula, uti & ipsarum caro ad oras rubet, &c. l. c.

[e] We mention this on the authority of Jacquin, vide Hort. Vindob. vol. 1, No. 75.

[f] Mat. Med. Ackin's edition, p. 678.

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fixed nature; for a watery infusion of this root being boiled down to a thick consistence, dissolved afresh in a large quantity of water, and strongly boiled down again, the heat and pungency of the root still remained, though with little or nothing of its smell. Ginger is generally considered as an aromatic, less pungent and heating to the system, than might be expected from its effects upon the organs of taste. Dr. Cullen thinks, however, that there is no real foundation for this remark.[g] It is used as an antispasmodic and carminative. The cases in which it is more immediately serviceable, are flatulent colics, debility and laxity of the stomach and intestines, and in torpid and phlegmatic constitutions to excite brisker vascular action. It is seldom given but in combination with other medicines. In the Pharmacopœias it is directed in the form of a syrup and a condiment,[h] and in many compositions it is ordered as a subsidiary ingredient.

[g] Cullen's Mat. Med. vol. ii. p. 206.

[h] For this purpose the root should not be older than four or five months. Of the very young roots the aromatic taste is peculiarly grateful. "Junior recens crudaque radix in Martinica in mensis apponitur, parvaque ejusdem portio solet cum bubula elixa comedi. Est etiam tunc insigniter acris, sed aroma longe gratius possidet, quam exsiccata." Jacquin. l. c.

AMOMUM REPENS, seu CARDAMOMUM. — OFFICINAL CARDAMOM.

SYNONYMA. Cardamomum minus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 1547. *Park. Theat. p.* 1576. Cardamomum simpliciter in officinis dictum. *Bauh. Pin. p.* 414. Cardamomum cum siliquis seu thecis brevibus. *J. Bauh. Hist. vol. ii. p.* 205. Amomum repens, seu Le Cardamome de la Côte de Malabar. *Sonnerat Voyage aux Indes oriental. tom. ii. p.* 240. *tab.* 136. Alia species est Amomum Cardamomum L. scapo simplicissimo brevissimo.

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Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 2.

Ess. Gen. Ch. *Cor.* 4-fida: lacinia prima patente.

Sp. Ch. A. scapis ramosis elongatis decumbentibus.
Smith, Syst. Veg. ined.

THE root is perennial: the stalks are simple, sheathy, erect, grow to a considerable height, and beset with leaves, which are lance-shaped, large, entire, acutely pointed, ribbed, and stand alternately upon the sheaths of the stalk: the flower stalk proceeds immediately from the root, and creeps along the ground: it is commonly about a foot and a half in length, articulated, in a zig-zag form,* and producing numerous flowers, which are placed upon divided stipulated peduncles, arising from the articulations: the calyx is small, and obtusely divided into three teeth at the margin: the corolla is monopetalous, composed of a narrow tube, divided at the mouth into four segments; of these the three outermost are long, narrow, uniform, and of a straw colour, but the central one, which has been considered as a nectary, is large, broad, concave, of an irregular oval shape, and marked with violet coloured stripes: the filament is membranous, strap-shaped, shorter than the segments of the corolla, to the top of which the anthera is joined: the germen is roundish, and placed below the insertion of the tube of the corolla: the style is filiform, of the length of the filament, and supplied with an obtuse stigma: the capsule is triangular, divided into three cells and valves, containing several small dark coloured seeds.

This plant is a native of the East Indies, and according to Sonnerat grows abundantly on the Malabar Coast:[a] it differs considerably from the Amomum Cardamomum of Linnæus, as appears

* In a specimen of this plant, which we have seen in the Herbarium of Sir Joseph Banks, this appearance is very remarkable.

[a] L. c.

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by the specific character he has given it, and the figures to which it is referred to in his Species Plantarum.[b] Sonnerat, who first discovered the Amomum repens, and on whose authority it is considered to afford the seeds officinally known by the name of Cardamomum minus, informs us, that this plant abounds so plentifully on a certain mountain on the Coast of Malabar, that it is called the Mountain of Cardamoms, from which all India is supplied with the seeds.

The Cardamoms imported into Europe have been distinguished by the names Cardamomum majus, medium, & minus; the distinction depending upon the respective sizes of their seeds; but the different species from which the two former are said to have been produced, are so imperfectly described, and their botanical histories so confused, that we are unable to give any satisfactory information concerning them; and whether the Amomum verum of the ancient Greek writers is referable to our Cardamom, seems also equally uncertain.

The seeds of the Cardamomum minus, which are now generally preferred for medicinal purposes, are brought to us in their capsules, or husks, by which they are preserved; for they soon lose a part of their flavour when freed from this covering. "Their virtue is extracted not only by rectified spirit, but almost completely by water also; with this difference, that the watery infusion is cloudy or turbid, the spirituous clear and transparent. Scarcely any of the aromatic seeds give out so much of their warmth to watery menstrua, or abound so much with gummy matter, which appears to be the principle by which the aromatic part is made dissoluble in water: the infusion is so mucilaginous, even in a dilute state, as hardly to pass through a filter."

"In distillation with water, a considerable quantity of essential oil separates from the watery fluid, of a pale yellowish colour, in smell exactly resembling the Cardamoms, and of a very pungent

[b] Elettari. *Hort. Malab. vol. ii. tab. 5.*
Rumph. *Amboin. vol. v. tab. 65.*

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taste: the remaining decoction is disagreeably bitterish, and mucilaginous. On inspissating the tincture made of rectified spirit, a part of the flavour of the Cardamoms arises with the spirit; but the greatest part remains behind, concentrated in the extract, which smells moderately of the seeds, and has a pungent aromatic taste, very durable in the mouth, and rather more grateful than that of the seeds in substance."[c]

Cardamom seeds, on being chewed, impart a glowing aromatic warmth, and grateful pungency: they are supposed gently to stimulate the stomach, and prove cordial, carminative, and antispasmodic, but without that irritation and heat which many of the other spicy aromatics are apt to produce. We are told by Sonnerat, that the Indians use it much, and believe it to strengthen the stomach, and assist digestion. Physicians, however, consider Cardamoms merely as an aromatic, and prescribe them in conjunction with other medicines, which they are intended to correct or assist.

Simple and compound spirituous tinctures of these seeds are directed by the Pharmacopœias; they are also ordered as a spicy ingredient in many of the officinal compositions.

[c] Lewis, *Mat. Med. p.* 194.

CURCUMA LONGA. LONG-ROOTED TURMERIC.

SYNONYMA. Curcuma. *Pharm. Lond. & Edinb.* Cannacorus radice crocea, sive Curcuma officinarum. *Tourn. Inst. p.* 367. Curcuma longa. *König, in Rez. Obs. bot. fasc.* 3. *p.* 72. Curcuma radica longa. *Zanon. Hist. Pl. ed. Mont. p.* 86. *tab.* 59. Curcuma domestica major. *Rumph. Herb. Amboin. tom.* 5. *p.* 162. *tab.* 67. Manjella-Kura. *Hort. Halab. tom.* 11. *p.* 21. *tab.* 11. Amomum Curcuma. *Jacquin, Hort. Vindob. tom.* 3. *p.* 5. *tab.* 4.

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Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 6.

Ess. Gen. Ch. *Stamina.* 4-sterilia, quinto fertili.

Sp. Ch. C. foliis lanceolatis: nervis lateralibus numerosissimis.

THE root is perennial, tuberous, and furnished with strong fibres, externally brownish, and internally of a deep yellow colour: the leaves are radical, large, lance-shaped, obliquely nerved; at the bottom, vaginal, and closely embracing each other: the scapus, or flower stem, rises from the centre of the leaves; it is short, thick, smooth, and forms a spike of numerous bracteal imbricated scales, between which the flowers successively issue: the corolla is monopetalous, consisting of a narrow tube, divided at the mouth into three oval segments: the nectarium occupies the wide undersinus of the corolla, and is the most conspicuous part of the flower; it is of a flesh colour, petal-like, large, spreading, and cut into three divisions, of which the middlemost is the largest: the filaments are five, four of which are erect, slender, linear, contracted, sterile; the fifth is petal-formed, lodged within the nectarium, and cleft at the top, to which the anthera is adjoined: the germen is roundish, and placed below the corolla: the style is the length of the filament, and furnished with a simple hooked stigma: the capsule is roundish, three-celled, three-valved, and contains numerous small seeds.

Turmeric is a native of the East Indies, and common in the gardens of the Chinese; it grows abundantly in Malacca, Java, and Balega.[a] It was first cultivated in England by Mr. P. Miller in 1759.[b] The root of this plant has been long officinally known, and passed under different names, as Crocus indicus, Terra merita, &c. In its dried state, as imported here, it is various in shape; externally of a pale yellow colour, wrinkled, solid, ponderous, and the inner substance of a deep saffron or gold colour; its odour is somewhat fragrant, and to the taste it is bitterish, slightly acrid,[c]

[a] Vide König, Rumphius, and Bontius.

[b] *Hort. Kew.* [c] The Chinese use it as a sternutatory.

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exciting a moderate degree of warmth in the mouth, and on being chewed it tinges the saliva yellow. It has been very generally employed for the purpose of dying,[d] and in eastern countries it is much used for colouring and seasoning of food.[e]

"This root gives out its active matter both to aqueous and spirituous menstrua. In distillation with water, it yields a small quantity of gold-coloured essential oil, of a moderately strong smell, and a pungent taste: the remaining decoction, inspissated, leaves a bitterish considerably saline mass. Rectified spirit elevates little or nothing of its virtue; all the active parts being left behind in the inspissated extract."[f]

This root has had the character of being a powerful aperient and resolvent: it has been commonly prescribed in obstructions of the liver, and other chronic visceral affections. The disease in which it has been thought most efficacious is the jaundice; but though the use of this root is highly recommended by several practical writers,[g] it is now very rarely employed; and we are told by Dr. Cullen, that the decoctum ad Ictericos of the Edinburgh Dispensatory, (Ed. 1756) "never had any other foundation than the doctrine of signatures in favour of the Curcuma and Chelidonium majus."[h]

[d] "This substance is very rich in colour, and there is no other which gives a yellow colour of such brightness; but it possesses no durability, nor can mordants give it a sufficient degree: common salt, and ammoniacal muriat, are those which fix the colour best, but they render it deeper." Hamilton's translation of Berthollet's *Elements of the Art of Dying*, vol. ii. p. 280. See also on this subject, Hellot, *L'art. de la Teint. p.* 406. and Pörner, *Chym. Versuche z. Nuz. der Farbekunst, vol. i.* 1. *Abh.* Scharffs *Recepte üb. versch. Gattungen. v. Farb.* 1. *St.*

[e] It enters the composition of the Curry powder which is now much used here.

[f] *Lewis, M. M.*

[g] Of these we may more particularly refer to Bontius, *(De Med. Indor. p.* 115.) F. Hoffman, *(Meth. Med.* in *Med. rat. tom. iii. p.* 542.) Coe, *(on Bileary Concret. p.* 285.)

[h] *Mat. Med. vol. i. p.* 25.

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KÆMPFERIA ROTUNDA. ZEDOARY.

SYNONYMA. Zedoaria. *Pharm. Lond. & Edinb.* I. Zedoaria longa. II. Zedoaria rotunda, *Bauh. Pin. p.* 31. *Park. Theat. p.* 1612. *Raii. Hist. p.* 1340. *Gerard, Emac. p.* 1623. Malan-Kua. *Rheed. Hort. Malab. tom.* 11. *p.* 17. *tab.* 9.

Class Monandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 7.

Ess. Gen. Ch. *Cor.* 6-partita: laciniis 3 majoribus patulis, unica bipartita. *Stigma* bilamellatum.

Sp. Ch. K. fol. lanceolatis petiolatis.

THE root is perennial, tuberous, fleshy, compressed, externally of an ash colour, internally of a bluish grey: the flower stem is covered with sheaths, and rises very little above the ground: the leaves are large, radical, nearly elliptical, pointed, veined, and stand upon broad footstalks: the calyx is small and obscure: the corolla is monopetalous, consisting of a long slender conical tube, divided at the upper extremity into six parts, three of which are long, narrow, spreading, inserted below the others, of which two are oval, pointed, and erect; the remaining one is deeply cut into two obversely heart-shaped divisions, of a reddish colour, and beautifully striated with purple: there is but one filament, which is membranous, and notched at the end: the anthera is linear, doubled, entirely adherent, and scarcely rises above the tube of the corolla: the germen is roundish, and supports a style, which is about the length of the tube, furnished with a folded roundish stigma: the capsule is triangular, divided into three cells, and as many valves, and contains numerous small seeds.

On the authority of Linnæus, the Colleges of London and Edinburgh have referred the officinal Zedoary to this plant, which is a native of the East Indies. But Bergius informs us, that he received

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a specimen of the Zedoary plant from India, which, upon examination, was found to be a species of Amomum;[a] and it is observed by Murray, that this opinion receives additional weight by the description of Zedoary, or the *Indorum Tamogcansi*, given by Camellus.[b]

It seems no easy task to discover with any tolerable probability, whether this drug was used by the ancients or not; some have supposed it to be the Costus of Dioscorides, the Guiduar of Avicenna, the Zerumbet of Serapion.* But this we leave to those who are ready to decide upon what is merely conjectural.

The roots of Zedoaria, longa and rotunda, are both produced by the same species of plant, and are indiscriminately used in the shops; the former are brought to us in oblong pieces, about the thickness of the little finger, two or three inches in length, bent, rough, and angular; the latter are roundish, about an inch in diameter, of an ash colour on the outside, and white within.

"This root has an agreeable camphoraceous smell, and a bitterish aromatic taste. It impregnates water with its smell, a slight bitterness, a considerable warmth and pungency, and a yellowish brown colour: the reddish yellow spirituous tincture is in taste stronger, and in smell weaker, than the watery. In distillation with water it yields a thick ponderous essential oil, smelling strongly of the Zedoary, in taste very hot and pungent."[c]

Cartheuser, who ascribes the virtues of Zedoary to a camphoraceous volatile oil, considers it as a general remedy for most of the chronic diseases with which humanity is afflicted;[d] but as the cam-

[a] "Plantam habui ex Cochinchina, figuræ Rheedeanæ convenientem, lectam a Cl. Joanne de Loureyro & comparatam sub itinere Chinensi, Cl. Car. G. Exeberg, Centurione & navis Gubernatore, de scientia botanices bene merito." *Mat. Med. p.* 5. He calls it, *A. scapo nudo, spica laxa truncata;* and makes its synonyma to be, Kua. *Rheed. Malab.* 11. *p.* 13. *t.* 7. Tommon itam. *Rumph. Amb.* 5. *p.* 169. *Zedoaria Camell. Stirp. Luz. p.* 23.

[b] See *Raii, Hist. plant. vol.* 3. *in App.*

* See on this subject, S. G. Manitius. *De ætatibus Zedoariæ relatio. Dresd.* 1691.

[c] *Lewis, M. M. p.* 684. [d] Sect. xiv. §. 3.

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phor it contains can avail but little, and its effects as a bitter or aromatic are so very inconsiderable, this root is now deemed to possess very little medicinal power, and might safely be expunged from the Materia Medica;[f] though it still has a place in the confectio aromatica of the London pharmacopœia.

[f] Dr. Cullen says, "I am clear that it might safely be omitted in our lists of the Mat. Med." *Mat. Med. vol. ii. p.* 207.

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ORD. XLVI. LILIACEÆ.

(From *Lilium*, the Lily.)

Plants of the Lily tribe, and those resembling it.

LILIUM CANDIDUM. COMMON WHITE LILY.

SYNONYMA. Lilium album. *Pharm. Edinb.* *Gerard Emac.* *p.* 190. *Raii Hist. p.* 1190. Lilium album vulgare. *Park. Parad.* 39. *J. Bauh. Hist. ii. p.* 685.

α Lilium album flore erecto et vulgare. *Bauh. Pin. p.* 76.

β Lilium album floribus dependentibus sive peregrinum. *Bauh. Pin. p.* 76. *Nodding-Flowered White Lily.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 410.

Ess. Gen. Ch. *Cor.* 6-petala, campanulata: *linea* longitudinali nectarifera. *Caps.* valvulis pilo cancellato connexis.

Sp. Ch. L. foliis sparsis, corollis campanulatis: intus glabris.

THE root is a large bulb, from which proceed several succulent fibres: the stem is firm, round, upright, simple, and usually rises about three feet in height: the leaves are numerous, long, narrow, pointed, smooth, without footstalks, and irregularly scattered over the stem: the flowers are large, white, and terminate the stem in clusters upon short peduncles: it has no calyx: the corolla is bell-shaped, consisting of six petals, which within are of a beautiful shining white, but without ridged, and of a less luminous whiteness: the filaments are six, tapering, much shorter than the corolla, upon which are placed transversely large orange-coloured antheræ:

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the style is longer than the filaments, and furnished with a fleshy triangular stigma: the germen becomes an oblong capsule, marked with six furrows, and divided into three cells, which contain many flattish seeds of a semicircular form. It flowers in June and July.

This Lily, which now very commonly decorates the borders of our gardens with the beautiful whiteness[a] of its flowers, is a native of the Levant, and has been cultivated here since the time of Gerard. The flowers of this plant have a pleasant sweet smell, and were formerly used for medicinal purposes;[b] a watery distillation of them was employed as a cosmetic, and the oleum liliorum was supposed to possess anodyne and nervine powers; but the odorous matter of these flowers is of a very volatile kind, being totally dissipated in drying, and entirely carried off in evaporation by rectified spirit as well as water; and though both menstrua become impregnated with their agreeable odour by infusion or distillation, yet no essential oil could be obtained from several pounds of the flowers. It is therefore the roots only which are now directed by the Edinburgh College: they are extremely mucilaginous, and are chiefly used, boiled with milk or water, in emollient and suppurating cataplasms: it is probable however, that the poultices formed of bread or farina, possess every advantage of those prepared of Lily root.

Lilium ἀπὸ λειριον vel λιριον. By the Greeks it is called κρινον.

[a] Alluding to this, Ovid, in the luxuriancy of his imagination, ascribes its origin to the milk of Juno.

"Dum puer Alcides Divæ vagus ubera suxit
"Junonis, dulci pressa sapore fuit;
"Ambrosiumque alto lac distillavit Olympo
"In terras fusum Lilia pulchra dedit."

Pliny says, *Lilium Rosæ* nobilitate proximum est; and both these flowers have furnished their share of metaphor to ancient and modern poets.

Either singly,

——— vel mixta rubent ubi lilia multâ
Alba rosâ: tales virgo dabat ore colores. ÆN. lib. xii. 68.

[b] Particularly as an anticpileptic and anodyne.

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SCILLA MARITIMA. OFFICINAL SQUILL, or, SEA ONION.

SYNONYMA. Scilla. *Pharm. Lond.* & *Edinb.* Scilla vulgaris, radice rubra. *Bauh. Pin. p.* 73. *Rait Hist. p.* 1164. Scilla rubra, sive Pancratium verum. *Park. Parad. p.* 133. Scilla rubra magna vulgaris. *J. Bauh. Hist. ii. p.* 615. Pancratium Clusii. *Gerard. Emac. p.* 172. Ornithogalon maritimum, seu scilla radice rubra. *Tourn. Inst. p.* 381. β Scilla radice alba. *Bauh. l. c.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 491.

Ess. Gen. Ch. Cor. 6-petala, patens, decidua. *Filamenta* filiformia.

Sp. Ch. S. nudiflora, bracteis refractis.

THE root is large, perennial, bulbous, coated, of a reddish hue, abounding with a tenacious juice, and furnished with many white fibres, which issue from its base: the stem is round, smooth, succulent, and rises two or three feet in height: the leaves are sword-shaped, radical, smooth, pointed, long, and of a deep green colour: the flowers are whitish, produced in a long close spike upon purplish peduncles, and appear in April and May: the bracteæ are linear, twisted, and deciduous: it has no calyx: the corolla is composed of six petals, which are ovate, patent, with a reddish mark in the middle: the filaments are six, tapering, shorter than the corolla, and furnished with oblong antheræ, placed transversely: the germen is roundish, supporting a simple style about the length of the filaments, and furnished with a simple stigma: the capsule is oblong, smooth, marked with three furrows, and divided into three cells, which contain many roundish seeds.

This plant is a native of Spain, Sicily, and Syria, growing in sandy situations on the sea coast, and hence the name *maritima*. It was first cultivated in England at the botanic garden at Oxford about the year 1648.[a] The red rooted variety has been supposed

[a] Vide *Hort. Oxon. ed.* 1. *p.* 48.

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to be more efficacious than the white, and is therefore still preferred for medicinal use:[b] it is to the taste very nauseous, intensely bitter, and acrimonious, but without any perceptible smell.—— "Water, wine, proof spirit and rectified spirit, extract the virtues both of the fresh and the dry root. Nothing rises in distillation with any of these menstrua, the entire bitterness and pungency of the Squill remaining concentrated in the inspissated extracts: the spirituous extract is in smaller quantity than the watery, and of a proportionably stronger almost fiery taste."

"Alkalines considerably abate both the bitterness and acrimony of the Squill: vegetable acids make little alteration in either, though the admixture of the acid taste renders that of the Squill more supportable. These acids extract its virtue equally with watery or spirituous menstrua."[c]

The root of the Squill, which appears to have been known as a medicine in the early ages of Greece,[d] and has so well maintained its character ever since, as to be deservedly in great estimation, and of very frequent use at this time, seems to manifest a poisonous quality to several animals. In proof of this, we have the testimonies of Hillefeild,[e] Bergius,[f] Vogel,[g] and others. Its acrimony is so great that even if much handled it exulcerates the skin; and if given in large doses, and frequently repeated, it not only excites nausea, tormina, and violent vomitings, but it has been known to produce strangury, bloody urine, hypercatharsis, cardialgia, hæmorrhoids, convulsions, with fatal inflammation and

[b] It may be observed, that this red colour is only confined to the outer coats of the root.

[c] Lewis, *M. M.*

[d] Some refer its introduction to medical use to Epimenides; others to Pythagoras. Vide Haller, *Bib. Bot. p.* 12. It was sometimes called Σκιλλα, and sometimes Πανκρατιον, and is noticed by Dioscorides, Hippocrates, Galen, Aëtius, Celsus, Pliny, Cælius Aurelianus, and the Arabian physicians.

[e] *Diss. Experim. circa venena, p.* 12.

[f] *Mat. Med. p.* 265. [g] *V. in* Hillef. *p.* 18.

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gangrene of the stomach and bowels.[h] But as many of the more active articles of the Materia Medica, by injudicious administration, become equally deleterious, these effects of the Scilla do not derogate from its medicinal virtues; on the contrary, we feel ourselves fully warranted in representing this drug, under proper management, and in certain cases and constitutions, to be a medicine of great practical utility, and real importance in the cure of many obstinate diseases. Its effects, as stated by Bergius, are incidens diuretica, emetica, subpurgans, hydragoga, expectorans, emmenagoga.[i] In hydropical cases it has long been esteemed the most certain and effectual diuretic with which we are acquainted; and in asthmatic affections,[k] or dyspnœa, occasioned by the lodgment of tenacious phlegm, it has been the expectorant usually employed.[l] The Squill, especially in large doses, is apt to stimulate the stomach, and to prove emetic; and it sometimes acts upon the intestines, and becomes purgative; but when these operations take place, the medicine is prevented from reaching the blood vessels and kidneys, and the patient is deprived of its diuretic effects; which are to be obtained by giving the Squill in smaller doses, repeated at more distant intervals,[m] or by the joining of an opiate to this medicine, which was found by Dr. Cullen to answer the same purpose. The Dr. further observes, that from a continued repetition of the Squill, the dose may be gradually increased, and the intervals of its exhibition shortened; and when in this way the doses come to be tolerably large, the opiate may be most conveniently employed to direct the operation of the Squill more certainly to the kidneys. "In cases of dropsy; that is, when

[h] See Lange, *de remed. Bruns. domest. p.* 176. Also Quarin, *Animadv. pract. p.* 166.

[i] *L. c.*

[k] All the authors who have written on these diseases, might here be cited.

[l] We do not notice its use as an emetic, as we think it entirely superseded by the ipecacuanha.

[m] This is mentioned on the authority of Dr. Cullen. *M. M. v. ii. p.* 558.

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there is an effusion of water into the cavities, and therefore that less water goes to the kidneys, we are of opinion, that neutral salt, accompanying the Squill, may be of use in determining this more certainly to the kidneys: and whenever it can be perceived that it takes this course, we are persuaded that it will also be always useful, and generally safe during the exhibition of the Squills to increase the usual quantity of drink."[n]

The diuretic effects of Squills have been supposed to be promoted by the addition of some mercurial; and the less purgative preparations of mercury, in the opinion of Dr. Cullen, are best adapted to this purpose; he therefore recommends a solution of corrosive sublimate, as being more proper than any other, because most diuretic.

Where the primæ viæ abound with mucous matter, and the lungs are oppressed with viscid phlegm, this medicine is likewise in general estimation.

As an expectorant, the Squill may be supposed not only to attenuate the mucus, and thus facilitate its ejection, but by stimulating the secretory organs and mucous follicles, to excite a more copious excretion of it from the lungs, and thereby lessen the congestion, upon which the difficulty of respiration very generally depends. Therefore in all pulmonic affections, excepting only those of actual or violent inflammation, ulcer, and spasm, the Squill has been experienced to be an useful medicine.

The officinal preparations of Squills are a conserve, dried Squills,* a syrup, and vinegar, an oxymel, and pills. Practitioners

[n] Cullen, *l. c.*

* "We must not, however, miss to observe here, that the drying of the Squill is a business that requires much attention, as it may be readily over done, and thereby render the Squill entirely useless. This over drying in one way or other, happens more frequently than our apothecaries are aware of; and has led me to allow, that some operation on the stomach, some nausea excited by the Squill, is a necessary test of the activity of the portion of it employed." *Cullen, l. c.*

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have not however confined themselves to these:[o] when this root was intended as a diuretic, it has most commonly been used in powder, as being in this state less disposed to nauseate the stomach; and to the powder it has been the practice to add neutral salts, as nitre, or crystals of tartar, especially if the patient complained of much thirst; others recommend calomel; and with a view to render the Squills less offensive to the stomach, it has been usual to conjoin an aromatic. The dose of dried Squill is from two to four or six grains, once a day, or half this quantity twice a day; afterwards to be regulated according to its effects. The dose of the other preparations of this drug, when fresh, should be four times this weight; for this root loses in the process of drying four-fifths of its original weight, and this loss is merely a watery exhalation.[p]

[o] See on this subject Wagner, *obs. clin. sect.* 2. in Hall. *collect. diss.* Ludwig, *Advers Medio-pract. vol. ii. p.* 695. Quarin, *l. c.* Werlhof, *Oper.* Stoll, *Prælect. in morb. chron.* Home, *Clin. Exper. & Hist. p.* 357. *&c.*

[p] Duncan, *New Edinb. Dispens. p.* 322.

ALLIVUM SATIVUM. COMMON CULTIVATED GARLICK.

SYNONYMA. Allium. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 177. *Park. Theat. p.* 513. *Raii Hist. p.* 1125. Allium sativum. *Bauh. Pin. p.* 73. *J. Bauh. Hist. ii. p.* 554. Allium staminibus alterne trifidis, foliis gramineis, capite bulbifero, radicibus in unum bulbum congruentibus. *Hall. Opusc. p* 331. Σκορδον *Græc.*

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Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 409.

Ess. Gen. Ch. *Cor.* 6-partita, patens. *Spatha* multiflora. *Umbella* congesta. *Caps.* supera.

Sp. Ch. A. caule planifolio bulbifero, bulbo composito, staminibus tricuspidatis.

THE root is perennial, composed of several bulbs, enveloped in a common membrane, and from its base sends off many long white fibres: the stem is simple, and rises about a foot and a half in height: the leaves at the root are numerous, on the stem few; they are all long, flat, grass-like: the flowers of all the plants of this species which we have seen, arise between the small bulbs or rocamboles, which terminate the stem in a cluster: each flower is very small, whitish, and commonly abortive: the calyx is a spatha common to all the florets and bulbs; it is withered, and of a roundish shape: the corolla consists of six oblong petals: the filaments are six, tapering, alternately trifid, shorter than the corolla, and furnished with oblong erect antheræ: the germen is placed above the insertion of the corolla, short, angular, and supports a simple style, terminated by an acute stigma: the capsule is short, broad, trilobed, three-celled, three-valved, and contains roundish seeds. It flowers in July.

This species of Garlick, according to Linnæus, grows spontaneously in Sicily;* but as it is much used both for culinary and medicinal purposes, it has been long very generally cultivated in gardens: it shews the same propensity to forming bulbs instead of flowers as the A. Scorodoprasum or Rocambole Garlick, which it also resembles in other respects.

Every part of the plant, but more especially the root, has a pungent acrimonious taste, and a peculiarly offensive strong smell. This odour is extremely penetrating and diffusive, for on the root being taken into the stomach, the alliaceous scent impregnates the

* Vide *Spec. Plant.*

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whole system, and is discoverable in the various excretions.[b] This volatile matter is, in part at least, an essential oil, which may be obtained in distillation in the ordinary manner, and like the oils of many of the siliquose plants, sinks in water. Applied to the skin, Garlick produces inflammation, and frequently vesicates the part. "On drying, this root loses almost nine parts in fifteen, without suffering any considerable loss of its taste or smell; hence six grains dried are supposed to be equivalent to fifteen grains of the fresh root."[c]

Garlick is generically allied to the onion, from which it seems only to differ in being more powerful in its effects, and in its active matter, being in a more fixed state; by stimulating the stomach they both favour digestion, and as the stimulus is readily diffused over the system, they may therefore be considered as useful condiments with the food of phlegmatic people, or those whose circulation is languid, and secretions interrupted; but with those subject to inflammatory complaints, or where great irritability prevails, these roots, in their acrid state, may prove very hurtful.

The medicinal uses of Garlick are various: it has been long in estimation as an expectorant in pituitous asthmas, and other pulmonary affections, unattended with inflammation.[d] Its utility as a diuretic in dropsies, is also attested by unquestionable authorities;[e]

[b] As in the urine, perspiration, milk; and according to Bennet, the discharge of ulcers becomes imbued with this odour very soon after the Garlick has been taken into the stomach. Vide *Tabidorum theat. excrc.* 29. *p.* 81. On being applied to the feet, the alliaceous taste has been produced in the mouth. Vide *Hall. opusc. bot. p.* 332.

[c] *Lewis, M. M. p.* 33.

[d] Dioscorides mentions its use in inveterate coughs. *M. M. l.* 2. *c.* 182. Celsus employed it mixed with honey in these complaints. *Lib.* 4. *c.* 4. *p.* 199. *ed Kraus.* Vide *Mead. Monit. et præc. p.* 56. Rosenstein *Hus-och Rese-apot. p.* 71 & 87. He recommends the Garlick to be boiled in milk, a pint of which is to be taken night and morning.

[e] See the cases related by Forestus, *(Obs. lib.* 9. *obs.* 27.) Bartholinus, *(Hist. Anat. Cent.* 2. *hyst.* 74. Sydenham, *(Oper. p.* 500.)

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and its febrifuge power has not only been experienced in preventing the paroxysms of intermittents,[f] but even in subduing the plague.[g]

Another virtue ascribed to Garlick is that of an anthelmintic:[h] it has likewise been found of great advantage in scorbutic cases,[i] and in calculous disorders, acting in these not only as a diuretic, but in several instances manifesting a lithontriptic power.[k] That the juice of alliaceous plants in general has considerable effects upon human calculi, is to be inferred by the experiments of Lobb;[l] and we are abundantly warranted in asserting, that by a decoction of the beards of leeks, taken liberally, and its use persevered in for a length of time, has been found remarkably successful in calculous and gravelly complaints.[m]

[f] Vide Celsus *l. c. p.* 142. De Hæn *Rat. Med. P. ii. p.* 57. *sq.* Rosenstein *Barns sjukd. p.* 317. Bergius. Vide *M. M. p.* 255. where he says, "In febribus quoque autumnalibus repullulantibus præclara identidem præstat. Vidi plures eodem curatos, etiam quos quartana vexaverat. Incipiendum a bulbulo unico mane & vesperi, sed quotidie unus bulbulus superaddendus, usquedum 4 vel 5 bulbulos sumserit æger qualibet vice. Si febris tunc evanuit, diminuenda erit dosis, & sufficit postea sumere unicum, vel etiam binos bulbulos, mane & vesperi, per plures septimanus.

[g] For this purpose it is to be given in such a way as to excite a copious diaphoresis. See the authors cited by Zorn. *Botan. Med. p.* 40. Chenot *(De peste. p.* 108. *sq.* and others.

[h] By Hoffman, Rosenstein, Taube, and others.

[i] See Lauremberg App. plant. l. 1. p. 22. Lind. on scurvy, p. 182. 188. 224.

[k] Vide Hoyer *Ephem. nat. cur. Cent. i. p.* 126. Goetz. *Act. nat. cur. vol.* 2. *p.* 431. Möhring *Commerc. Nor.* 1735. 220.

[l] De Dissol. calc. cap. 10.

[m] A boy, six or seven years old, had for a considerable time suffered, by a calculus in the urinary bladder, which had been discovered on sounding; he had recourse to this decoction, which very soon relieved the pain; after which his urine became extremely turbid, and constantly deposited a copious clay-like sediment for several weeks, when it resumed its natural appearance, and the boy has ever since been free from complaint. Another case similar to this has also been reported to us, of the truth of which we have not a doubt.

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The penetrating and diffusive acrimony of Garlick renders its external application useful in many disorders, as a rubifacient, and more especially as applied to the soles of the feet, to cause a revulsion from the head or breast, as was successfully practised and recommended by Sydenham.[n] Garlick has also been variously employed externally to tumors and cutaneous diseases; and in certain cases of deafness a clove or small bulb of this root, wrapt in gauze or muslin, and introduced into the meatus auditorius, has been found an efficacious remedy.[o]

Garlick may be administered in different forms; swallowing the clove entire, after being dipped in oil, is recommended as the most effectual, or where this cannot be done, by cutting it into pieces without bruising it, may be found to answer equally well, producing thereby no uneasiness in the fauces. On being beaten up, and formed into pills, the active parts of this medicine soon evaporate: this we notice on the authority of Dr. Cullen, who thinks that Lewis has fallen into a gross error, in supposing dried Garlick more active than fresh.

The sprup and oxymel of Garlick, which formerly had a place in the British Pharmacopœias, are now expunged.

[n] Especially in the confluent small-pox, about the eighth day. *Epist. de variolis conf.*

[o] Bergius for this purpose recommends the juice of Garlick dropped on cotton. *l. c.*

VERATRUM ALBUM. WHITE HELLEBORE, or, VERATRUM.

SYNONYMA. Helleborus albus. *Pharm. Lond. & Edinb. Gerard. Emac. p.* 440. *Raii Hist. p.* 168. Helleborus Albus, flore subviridi. *Bauh. Pin. p.* 186. Helleborus albus vulgaris. *Park. Theat. p.* 217. Veratrum flore subviridi. *Tournef. Inst. p.* 272. Veratrum spica paniculata, floribus maribus & feminis. *Hall. Stirp. Helv. n.* 1204. Veratrum album. *Jacq. Flor. Aust. v. iv. t.* 335. *Mill. Illustr. ic.*

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Class Polygamia. *Ord.* Monoecia. *Lin. Gen. Plant.* 1144.

Ess. Gen. Ch. Hermaphrod. Cal. 0. *Cor.* 6-petala. *Stam.* 6. *Pist.* 3. *Caps.* 3, polyspermæ.

Masc. Cal. 0. *Cor.* 6-petala. *Stam.* 6. *Pist.* rudimentum.

Sp. Ch. V. racemo supradecomposito, corollis erectis.

THE root is perennial, about an inch thick, externally brown, internally white, and beset with many strong fibres: the stalk is thick, strong, round, upright, hairy, and usually rises four feet in height: the leaves are numerous, very large, oval, entire, ribbed, plaited, without footstalks, of a yellowish green colour, and surround the stem at its base: the flowers are both hermaphrodite and male, of a greenish colour, and appear from June to August, in very long branched terminal spikes: the hermaphrodite flowers are without calyces: the corolla consists of six petals, which are oblong, or lance-shaped, veined, persistent, of a pale green colour: the filaments are six, closely surrounding the germens, shorter than the corolla, and terminated by quadrangular antheræ: the germens are three in each flower, erect, oblong, ending in short hairy styles, which are crowned with flat spreading stigmata: the capsules are three, oblong, compressed, erect, two-celled, opening inwardly, and containing many oblong compressed membranous seeds. The male flowers differ from these only in wanting the germens.

This plant is a native of Italy, Switzerland, Austria, and Russia: its first cultivation in this country is ascribed to Gerard, and of course was previous to the year 1596.

The ελλεβορος λευκος of the Greek writers is by many supposed to be our Helleborus albus; but this opinion, like many others respecting the identity of the ancient nomenclature of plants with that of the modern, seems drawn rather from the similarity of their effects upon the body, than from an agreement in their botanical descrip-

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tions. This will evidently appear upon comparing the plant here figured with the description given by Dioscorides:* and yet Geoffroy says, "Apud Dioscoridem hellebori albi descriptio, veratro albo nostro satis apte convenit."[a]

The Ελλεβορος μελας, or famous Anticyran Hellebore,[b] is likewise thought to be the Helleborus niger of Linnæus, an account of which has been given at page 473; but the descriptions of the former by the ancients are so vague that their identity is equally doubtful;[c] the application therefore of what has formerly been said of the Hellebores of the Greeks to those known of us, can only be admitted as a matter of probability.

Hippocrates frequently mentions Hellebore simply, or generically, by which we are told the white is to be understood, as he adds the words black or purging when the other species is meant; and as the purgative powers of Veratrum are known to be weaker than those of helleborus niger, the distinction is so far applicable to the effects now experienced of the roots of our Hellebores.

* "Helleborus albus folia fert Plantaginis aut Betæ sylvestris similia, sed breviora, nigriora, & dorso rubescentia: caulem palmi altitudine, concavum; qui quidem tunicas quibus convolvitur abdicat cum arescere incipit. Radices subjacent numerosæ, tenues ac fibratæ, ab exiguo & oblongo capitulo, ceu capa, exeuntes, eidemque annexæ. Nascitur in montosis & asperis." *Dioscorid. M. M. L. iv. c.* 150. This description of the plant, though imperfect, is the only one given by the ancients.

[a] *Mat. Med. vol. ii. p.* 68.

[b] "Navigèt Anticyram."—

Danda est hellebori multo pars maxima avaris:
Necio, an Anticyram ratio illis destinet omnem.

HOR. SAT. Lib. ii. v. 83.

It is said that both the white and black hellebore grew at Anticyra, but the latter was accounted safer, and therefore more commonly employed. *Pausanias, Lib. x. p.* 623.

[c] Though Tournefort says, "Nous connûmes deux Herboristes à Pruse, l'un Emir & l'autre Armenien, qui passoient pour de grands Docteurs. Ils nous fournirent des racines du veritable Ellebore noir des anciens, autant que nous voulumes pour en faire l'extrait. C'est la même espece que celle des Anticyres & des côtes de la Mer Noir." See his account of Mount Olympus. *Voyage du Levant.* But his description of the plant differs widely from that of our Helleborus niger.

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It appears from various instances, that not only the roots of white Hellebore, but that every part of the plant is extremely acrid and poisonous, as its leaves and even seeds proved deleterious to different animals.[d] The dried root has no peculiar smell, but a durable nauseous acrid bitterish taste, burning the mouth and fauces; when powdered and applied to issues or ulcers it produces griping and purging; if snuffed up the nose it proves a violent sternutatory. Gesner made an infusion of half an ounce of this root with two ounces of water, of this he took two drams, which produced great heat about the scapulæ, and in the face and head, as well as the tongue and throat, followed with singultus, which continued till vomiting was excited.[e] Bergius also experienced very distressing symptoms merely by tasting this infusion.[f] The root, taken in large doses, discovers such acrimony, and operates upwards and downwards with such violence that blood is usually discharged:[g] it likewise acts very powerfully upon the nervous system, producing great anxiety, tremors, vertigo, syncope, loss of voice, interrupted respiration, sinking of the pulse, convulsions, spasms, cold sweats, &c.[h] Upon opening those who have died by the effects of this poison, the stomach discovered marks of inflammation, with corrosions of its interior coat, and the lungs have been found inflamed, and their vessels much distended with dark blood.[i]

The ancients, though sufficiently acquainted with the virulency of their white Hellebore, were not deterred from employing it

[d] See Pallas, *Russ. Reise, vol. i. p.* 40. Klam's *N. Amer. tom. iii. p.* 48. Gunner, *Fl. Norveg. P. ii. p.* 2. For the poisonous effects of the roots, when applied to wounds of different animals, Vide *Phil. Trans. vol. xlvii. p.* 82.

[e] *Epist. Med. p.* 69. [f] *M. M. p.* 819.

[g] Ettmuller. *Oper. tom. ii. P.* 2. *p.* 435.

[h] Wepfer, *de Cicut. p.* 48. Lorry *de Melanch. ii. p.* 313. Borrich. *Act. Haf. vol. vi. p.* 145. Albert. Jurisprud. *Med. vol. vi. p.* 718. Bresl. Samml. 1724. *P.* 2. *p.* 269. *p.* 537. Act. Berol. *Dec.* 2. *vol.* 6. Misc. Nat. Cur. *Dec.* 2. *Ann.* 2. *p.* 239.

[i] *Act. Berol. cit. Misc. Nat. Cur. cit.*

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internally in several diseases, especially those of a chronic and obstinate kind, as mania, melancholia, hydrops, elephantiasis, epilepsia, vitiligo, lepra, rabies canina, &c. they considered it the safer when it excited vomiting, and Hippocrates wished this to be its first effect. To those of weak constitutions, as women, children, old men, and those labouring under pulmonary complaints, its exhibition was deemed unsafe; and even when given to the robust it was thought necessary to moderate its violence by different combinations and preparations; for it was frequently observed to effect a cure not only by its immediate action upon the primæ viæ, but when no sensible evacuation was promoted by its use.[k]

Similar observations have been made of Veratrum by authors of later times: Mayerne[l] gave from two to three grains of an extract of this root with considerable advantage in maniacal cases, where no remarkable evacuation took place; and Con. Gesner,[m] who investigated the qualities of Veratrum by repeated experiments, and whose encomiums on its efficacy seemed for a while to restore it to the ancient character of Hellebore, expressly declares, that he did not give it as an evacuant, but to produce the more gradual effects of those medicines termed alteratives. Gesner's account of

Bergius says, "Ego vix a memet impetrare potero, ut radicis, ita intense venenatæ, usum internum cuiquam suasurus sim, nisi summa adhibita circumspicientia; etenim constat, eam, in satis parca dosi propinatam, sæpe horrenda symptomata excitasse, ut sitim, cardialgiam, tormina, singultum, suffocationes, convulsiones, tremores, inflammationem primarum viarum, lipothymias, sudorem frigidum, immo & mortem." *l. c.*

[k] Hippocr. περὶ Ελλεβορισμοῦ in Oper. ed. Lind. *tom. i. p.* 610. Et Aphorism. *Sect. iv. Aph.* 13—16.

[l] Prax. Med. *Lib. i. c. 7. p.* 69. *sq.*

[m] He says, "non ad purgandum, sed ad reserandos meatus & crassos humores attenuandum, eosque a centro & interioribus corporis ad superficiam & vias excretionum variarum educendum." Adding, "recreat & roberat, & hilariorem facit, & acuit ingenium: quod in me & aliis sæpissime expertus scribo." Had Gesner lived long enough, he had still more to say on this subject. "Ego, si vixero, in Ellebori historia multa proferam, quæ medici admirentur." *l. c.*

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Veratrum was followed by those of several other authors,[n] in which it is said to have been serviceable in various chronic diseases. But the fullest trial which seems to have been lately made of the efficacy of Veratrum is by Greding,[o] who employed it in a great number of cases, (twenty-eight) of the maniacal and melancholic kind; the majority of these, as might be expected, derived no permanent benefit; several however were relieved, and five completely cured by this medicine. It was the bark of the root, collected in the spring, which he gave in powder, beginning with one grain: this dose was gradually increased according to its effects. With some patients one or two grains excited nausea and vomiting, but generally eight grains were required to produce this effect, though in a few instances a scruple, and even more, was given. We may also remark, that he sometimes used the extract prepared after Stoerck's manner.—In almost every case which he relates, the medicine aeted more or less upon all the excretions: vomiting and purging were very generally produced, and the matter thrown off the stomach was constantly mixed with bile; a florid redness frequently appeared on the face, and various cutaneous efflorescences upon the body; and, in some pleuretic, symptoms with fever supervened, so as to require bleeding, nor where the more alarming affections of spasms and convulsions unfrequent. Critical evacuations, we are told, were often very evident, many sweated profusely, in some the urine was considerably increased, in others, the saliva and the mucous discharges: also uterine obstructions, of long continuance, were often removed by this drug.

Veratrum has likewise been found useful in epilepsy, and other

[n] *Hannemann, Quercetanus, Screta, Wepfer, Muralto, Linder.*

[o] *Vermischte Med. u. chirurg. Schristen. Altenb.* 1781. to *p.* 30.

Wendt relates a case of mania, brought on by taking pepper and spirits of wine as a remedy for the ague; the disease continued thirty-three weeks, when it was said to have been cured by a decoction of white hellebore; but as copious and repeated bleedings, with other means, were employed, the cure cannot wholly be ascribed to the hellebore. See Agassiz. *Diss. de therapia maniæ. Erl.* 1785. *p.* 37.

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convulsive complaints,[p] but the diseases in which its efficacy seems least equivocal, are those of the skin,[q] as scabies and different prurient eruptions, herpes, morbus pediculosus, lepra, scrophula, &c. and in many of these it has been successfully employed both internally and externally.

As a powerful stimulant, and irritating medicine, its use has been resorted to only in desperate cases, and then it is first to be tried in very small doses, in a diluted state, and to be gradually increased, according to the effects.

[p] Greding, *l. c.* See also Smyth in *Medical Communications, vol. i. p.* 207.

[q] Its success in these complaints is mentioned both by the ancient and modern writers. Smyth relates three cases. See *l. c.*

The Veratrum nigrum of Lin. or Helleborus albus flore atro-rubente of C. Bauh. is said to produce the same effects as the Veratrum album. See Lorry, *de melanch. tom. ii. p.* 289. & Linnæus, *Amoen. Acad. vol. ix. p.* 261. Helleborus is supposed to be derived ἀπο τυ ἑλειν βορα quod esu perimat. Veratrum dicitur quod mentem vertat, or, à verare i. e. vera loqui. *V. C. Bauh. l. c.*

COLCHICUM AUTUMNALE. COMMON MEADOW SAFFRON.

SYNONYMA. Colchicum. *Pharm. Lond.* & *Edinb.* Colchicum commune. *Bauh. Pin. p.* 67. *Raii Hist. p.* 1170. *Synop. p.* 373. Colchicum purpureum & Anglicum album. *Gerard. Emac. p.* 157. *Park. Parad. p.* 153. Colchicum Flore folium longe præcedente, petalis ovatis. *Hall. Stirp. Helv. n.* 1255. C. autumnale. *Hudson. Fl. Ang. p.* 136. *Ed.* 1762. *Light. Fl. Scot. p.* 192. *Withering Bot. Arr. p.* 379. *Stoerck Lib. de Colch. autumn.*

Class Hexandria. *Ord.* Trigynia. *Lin. Gen. Plant.* 457.

Ess. Gen. Ch. *Cor.* 6-partita: tubo radicato. *Capsulæ* connexæ inflatæ.

Sp. Ch. C. foliis planis lanceolatis erectis.
α Flore simplici. β Flore pleno.

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THE root is perennial, consisting of a solid double succulent bulb, covered with a brown membranous coat: the flower is large, of a purplish colour, and rises immediately from the root upon a long naked tube,[a] like that of the Saffron: the leaves appear in the spring, and are numerous, radical, spear-shaped, one or two much narrower than the others: there is no calyx: the corolla is monopetalous, and divided into six lance-shaped large erect segments, of a pale purple colour: the filaments are six, tapering, white, much shorter than the corolla, and furnished with erect pointed yellow antheræ: the germen is lodged at the root, from which issue three slender styles, reflexed at the top, and terminated by simple pointed stigmata: the capsule is three-lobed, divided into three cells, containing numerous small globular seeds, which do not ripen till the succeeding spring, when the capsule rises above the ground upon a strong peduncle. It is a native of England, affecting meadow grounds of a rich soil,[b] and flowers in September.

The recent root of this plant has been received into the Materia Medica of both Pharmacopœias, on the recommendation of Baron Stoerck, who first thought of converting this acrid poison to the purposes of medicine.[c] Respecting its effects and sensible qualities, authors have given very different reports. Haller informs us, that he found this root perfectly void of taste and acrimony.[d] Krapf likewise says, that he ate the whole bulbs without feeling any inconvenience, except that of an ungrateful bitterish taste;[e] and Kratochvill gave this root with impunity to several in doses of two, three, and even four drams;[f] while Stoerck tells us, that by

[a] Hence it has been called *naked lady.*

[b] It is not so rare a plant as the Saffron.

[c] The external use of this root, and the wearing it inclosed in a bag, suspended about the neck, which was formerly practised for the purpose of preventing and curing pestilential fevers, will hardly be thought an exception to this assertion.

[d] *L. c. n.* 1256.

[e] *Cont. Experim. in Stoerck. p.* 233. [f] Vide *Kratochvill de Colch. p.* 35.

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gently rubbing the root against the tip of his tongue, it rendered the part rigid, and almost void of sensation, for several hours.[g] Ehrmann,[h] Marges,[i] Murray,[k] and several other writers, also bear testimony to the great acrimony of Colchicum; so that we can only reconcile these contradictory accounts by supposing these roots to vary much according to their age, the soil in which they grow, and probably still more according to the season of the year in which they are dug up. Baron Stoerck asserts, that on cutting the fresh root into slices, the acrid particles emitted from it irritated the nostrils, fauces, and breast; and that the ends of the fingers with which it had been held, became for a time benumbed;[l] that even a single grain in a crumb of bread, taken internally, produced a burning heat and pain in the stomach and bowels, urgent strangury, tenesmus, colic pains, cephalalgia, hiccup, &c.[m] From this relation, it will not appear surprising that we find several instances recorded in which the Colchicum proved a fatal poison both to man[n] and brute animals.[o]

From various observations on the effects of Colchicum made by Baron Stoerck, and especially upon the infusion of three grains of the fresh root in four ounces of wine, he remarked that its diuretic power was very considerable, and therefore concluded that if its

[g] *Lib. de Colch. p.* 8. 9.

[h] *Diss. de Colch. Basil.* 1772. §. 5. [i] Vide *Journal de Med. tom.* 23. *p.* 32. *sq.*

[k] *App. Med. vol.* 5. *p.* 196.

[l] *L. c. p.* 25. [m] *L. c. p.* 11.

[n] Two boys, after eating this plant, which they found growing in a meadow, died in great agony. *Jo. Agricola Ammonius, Medic. herbar. lib.* 1. *p.* 90. See also *Ludovici Opera, p.* 63. Violent symptoms have been produced by taking three of the flowers. *Garidel, Plantes d'Aix. p.* 123. The seeds likewise have been known to produce similar effects. *Bressl. Samml.* 1723. p. 679.

[o] Deer and oxen have fallen a sacrifice to this poison; and according to Stoerck two drams of the root killed a dog in thirteen hours, and upon opening its abdomen, the stomach and bowels were found to be greatly inflamed, or in a gangrenous state. *L. c. p.* 17.

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deleterious acrimony were destroyed, it might prove in this character an efficacious medicine; accordingly he digested an ounce of the recent root sliced in a pound of vinegar for forty-eight hours with a gentle heat; the vinegar being then strained, it proved acrid to the taste, constringed and irritated the fauces, and excited a slight cough; to obviate which, he mixed the vinegar with twice its weight of honey, and gently boiled it down to the consistence of honey, forming an oxymel sufficiently grateful, and which, taken in doses of a dram, promoted a copious discharge of urine, without producing any inconvenience from its acrimony, though it moderately stimulated the fauces, and absterged the mucus. Thus, like the squill, it was found both expectorant and diuretic; and the successful use of this medicine in various hydropic disorders in the hospital at Vienna, equalled the Baron's utmost expectations. He recommends, at first, a dram of the oxymel to be given twice a day in any suitable vehicle, and gradually to increase the dose to an ounce or more in a day. Many other practitioners, who employed the oxymel colchici in these complaints, also experienced its good effects, especially in Germany[p] and France,[q] where it continues to be a favourite medicine: in England, however, the Colchicum has been less successful,[r] and is very generally thought a less efficacious diuretic than the squill, which excells it still more as an expectorant. The London College, conformably to the practice of Stoerck, directs an oxymel colchici, and that of Edinburgh a syrup; the latter however differs from the former only in using sugar instead of honey.

[p] As Zach, Krapf, Plenck, Collin, Ehrmann, and others.

[q] We may here mention Marges, Planchon, Du Monceau, &c. &c.

[r] Vide *Med. Obs. & Inq. vol. 3. præf.* See also *Monro's Essay on Dropsy, p.* 108.

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CROCUS SATIVUS. SAFFRON CROCUS.

SYNONYMA. Crocus. *Pharm. Lond. Gerard. Emac. p.* 151. *Raii Hist. p.* 1176. *Synop. p.* 374. Crocus verus sativus autumnalis. *Park. Parad. p.* 167. Crocus sativus. *Bauh. Pin. p.* 65. *Hudson. Flor. Ang. p.* 13. *Withering Bot. Arr. p.* 37. *Relhan. Flor. Cant. p.* 15. *Miller's Figures, t.* 111. Conf. *Douglas. Phil. Trans. vol.* 32. *p.* 441. *Du Hamel, and Fougeroux De Bondaroy. Mem de L'Acad. des Scien. de Paris,* 1728. *p.* 100. *and p.* 92. *f.* 1. 2.

Class Triandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 55.

Ess. Gen. Ch. *Cor.* 6-partita, æqualis. *Stigmata* convoluta.

Sp. Ch. C. spatha univalvi radicali, corollæ tubo longissimo.

α C. autumnalis, *foliis angustioribus margine revolutis.* Miller. Illus.

β C. vernalis, *foliis latioribus margine patulo.* Jacquin. Aust. v. 5. Curt. Mag. 45.

THE root is bulbous, perennial: the flower appears after the leaves, rising very little above the ground upon a slender succulent tube: the leaves rise higher than the flower, are linear, simple, radical, of a rich green colour, with a white line running in the centre, and all at the base inclosed along with the tube of the flower in a membranous sheath: the flower is large, of a bluish purple, or lilac colour: the corolla consists of six petals, which are nearly elliptical, equal, and turned inwards at the edges: the filaments are three, short, tapering, and support long erect yellow antheræ: the germen is roundish, from which issues a slender style, terminated by three long convoluted stigmata, of a deep yellow colour: the capsule is roundish, three-lobed, three-celled,

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three-valved, and contains several round seeds. It flowers in September and October.

It is now indubitably ascertained that this plant is a native of England, though unknown to Ray, Miller, and several other subsequent botanists. It has been long cultivated for use in this and in many other countries: but English Saffron is generally preferred here to that which is imported from abroad, and may be distinguished by its parts being larger and broader. All the different plants of this genus are by Linnæus considered only as varieties of the C. sativus. Jacquin,[a] however, makes a distinct species of the spring Crocus: in this he has been followed by Curtis, who has published a figure of the plant in his Botanical Magazine: and Miller, who describes four species of this family, thinks all of them "must be allowed to be specifically different, since they do not vary to each other."[b]

The stigmata of the Crocus here figured, which constitute the officinal Saffron, are easily to be distinguished from those of the other varieties, and in the neighbourhood of Saffron-Walden, and in some parts of Cambridgeshire, where the plant is chiefly cultivated, are prepared for use in the following manner. In autumn, when the flowers appear, they are gathered every morning, and are spread upon a table; the stigmata along with a portion of the style, are then picked from the other part of the flowers, which are thrown away as useless. The stigmata being thus collected in sufficient quantity are then dried, which is effected by means of portable kilns, of a peculiar construction, over which a hair cloth is stretched; and upon this are placed a few sheets of white paper, on which the stigmata are strewed, about two or three inches thick, and then covered with several sheets of paper, over which is laid a coarse blanket, five or six times folded, or a canvas bag filled with straw; and when the fire has heated the kiln, a board, on which a weight is put, is placed upon the blanket in order to press the Saffron into a cake. For the first hour a pretty strong fire is

[a] Vide *l. c.* [b] See *Dict.*

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employed; the Saffron is then found to be formed into a cake, which, after being turned, is subjected for another hour to the same degree of heat: it is then turned a second time, and a more gentle heat is applied for about twenty-four hours, or till the cake becomes dry, during which time it is turned every half hour.[c]

Saffron, thus prepared, has a powerful penetrating diffusive smell, and a warm pungent bitterish taste. "It gives out the whole of its virtues and colour to rectified spirit, proof spirit, wine, vinegar, and water: about three parts in four of the Saffron are taken up by each of these menstrua; and the matter which remains undissolved is inodorous, insipid, and of a pale clay colour."[d] The acetous, and even vinous tinctures of Saffron, on long keeping, lose a little of their colour and strength, but those made with rectified spirit remain in perfection for years.[e] "In distillation it impregnates water strongly with its flavour: if the quantity of Saffron is large, a small portion of a fragrant and very pungent essential oil may be collected, amounting, as is said by Vogel, to about a dram and a half from sixteen ounces. Rectified spirit elevates also a considerable share of its flavour, but leaves much the greater part concentrated in the extract."[f]

Saffron is evidently the Κρόκος of the Greeks, Crocus of the Latins, and Zaffaran, or Zahafaran, of the Arabians. It was held in much estimation by the Hebrews, who called it Carcom, and was greatly celebrated in ancient times both by physicians and poets. As a medicine, Saffron was considered to be very powerful. Schroder asserts, that if taken to the quantity of two or three drams, it proves fatal; and by several authors we are informed, that in large doses it produced cephalalgia, intoxication, and mania.[h] We are

[c] For a full account of the cultivation and management of Saffron, see *Douglas in Phil. Trans. vol. 35. p. 566.* And *Miller's Dict.*

[d] *Lewis, M. M. p. 258.*

[e] *Ibid.* [f] *Ibid.*

[h] See especially *Zacut. Lusit. apud Friec. de venen. p. 394.*

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also assured, that it penetrates every part of the body, tinging the solids and excretions with a yellow colour;[i] and that even the odour or effluvia of this drug, have been known to produce deleterious effects.[k] It appears, however, from the experiments of Dr. Alexander,[l] that Saffron possesses but very little active power, and may be taken in considerable quantity, without producing any remarkable effect: and it was lately given in the Edinburgh Infirmary, by Dr. Henry Cullen, even to the extent of half an ounce a-day, in several hysterical cases, without any sensible effect whatever.*

Writers on the Materia Medica have very generally considered Saffron as a most exhilarating cordial; and for this purpose Boerhaave preferred the extract, inspissated only to the consistence of oil: but the observations of modern physicians do not furnish us with one instance in which this drug had any remarkable effect in raising the spirits; on the contrary Bergius informs us, that a lady always experienced great despondency by taking this medicine. It has been supposed of considerable efficacy as an emmenagogue; Riverius mentions a singular case of its powerful action in this way.[m] Dr. Cullen also informs us, that he has found it to succeed in this character in one or two instances; but that in many others, though repeatedly employed in large doses, no good effect was produced.[n] Another quality for which Saffron has been esteemed, is that of an antiseptic; yet though, (according to the experiments of Sir John Pringle,[o]) it manifested the power of retarding the putrefactive process of animal matter, we have no proof of its efficacy in this way on the living body, infected by a

[i] Hertodt, *Crocologia. p.* 279.

[k] Borellus. *Hist. et Obs. cent.* 4. *Obs.* 35. *p.* 303. Tralles, *de Opio. sect.* 1. *p.* 114. *Zacut. Lusit. l. c.*

[l] *Experimental Essays, p.* 88.

* See *Duncan's Edinburgh New Dispensatory, p.* 178.

[m] *Opera ed. Horst. p.* 136. [n] *Cullen. M. M. vol. ii. p.* 313.

[o] *Diseases of the Army, App. p.* 20.

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putrid disease. Saffron has also been employed as a diaphoretic, and for the purpose of throwing out variolous pustles, and other exanthemata; but this practice seems to have originated from a mistaken notion of the action of Saffron, as well as from a fallacious pathology, which is now utterly exploded. In short, though the sensible qualities of this medicine are pretty considerable, it appears to us to possess no other power than simply that of an aromatic: and Dr. Cullen declares, that he "has not been more puzzled upon any occasion, than in ascertaining the medicinal qualities of this substance,"[P] so that the words of a very classical writer may still be applied to it, though with a contrary view: "Nec poteris croci dotes numerare, nec usus."

At present very little confidence is placed in this medicine, though it enters several officinal compositions. The Edinburgh College directs a tinctura croci, but that of London only retains a syrup of this drug.

[P] *L. c.*

ALOE PERFOLIATA SOCOTORINA. SOCOTORINE ALOE.

SYNONYMA. Aloë socotorina. *Pharm. Lond. & Edinb.* Aloe Americana ananæ floribusque suave rubentibus. *Pluk. Almag. t.* 240. *f.* 4. Aloe (vera) foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis. *Mill. Dict.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 430.

Ess. Gen. Ch. Cor. erecta, ore patulo, fundo nectarifero. *Filam.* receptaculo inserta.

Sp. Ch. A. foliis caulinis dentatis amplexicaulibus vaginantibus, floribus corymbosis cernuis pedunculatis subcylindricis.

A. S. foliis longissimis et angustissimis, marginibus spinosis, floribus spicatis.

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THE root is perennial, strong, fibrous: the flower-stems rise three or four feet in height, and are smooth, erect, of a glaucous green colour, and towards the top beset with ovate bracteal scales: the leaves are numerous, and proceed from the upper part of the root: they are narrow, tapering, thick, or fleshy, succulent, smooth, glaucous, and beset at the edges with spiny teeth: the flowers are produced in terminal spikes, and of a purple or reddish colour: there is no calyx: the corolla is monopetalous, tubular, nectariferous, cut into six narrow leaves which separate at the mouth: the filaments are six, tapering, yellowish, inserted into the receptacle, and furnished with oblong orange-coloured antheræ: the germen is oblong, supporting a simple slender style, of the length of the filaments, and terminated by an obtuse stigma: the capsule is oblong and divided into three cells, with as many valves, and contains many angular seeds.

It is a native of Africa, and flowers most part of the year.

Not only the socotorine aloes, which is the inspissated juice of the plant here represented, but also the hepatic or Barbadoes aloes is directed for officinal use in our pharmacopœias. This however being obtained from another variety of the same species, viz. the aloe *(ϖ vera)* foliis spinosis confertis dentatis vaginantibus planis maculatis L. it has not been thought necessary to give a separate figure of it here. Besides, it appears probable from the observations of Professor Murray, that different species as well as varieties of aloe would furnish the various kinds of this drug, and that Linnæus by referring these sorts to those plants, the recent juice of which seemed respectively to correspond the nearest to them in taste, might easily be misled; for Murray upon tasting the fresh juice of many different species of aloe, sometimes found it bitter, and at other times totally devoid of bitterness.[a]

[a] See *Commentatio de succi aloës amari initiis* in *Murr. Opusc. tom.* 2. *p.* 488. This author found the bitterest species to be the following: 1. Aloe elongata, floribus spicatis tubuloso-triquetris subringentibus obliquè dependentibus, foliis aggregatis dentatospinosis. It seems to be the variety ϖ of the spec. plant. and is

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A tract of mountains about fifty miles from the Cape of Good Hope is wholly covered with the aloes plants, which renders the planting of them there unnecessary; but in Jamaica and Barbadoes they are now carefully cultivated; to the former of these Islands, they were first brought from Bermuda, and gradually propagated themselves. They require two or three years standing before they yield their juice in perfection; to procure which, according to Dr. Browne, " The labourers go into the field with tubs and knives, and cut off the largest and most succulent leaves close to the stalk; these are immediately put into the tubs, and disposed one by the side of another in an upright position, that all the loose liquor may dribble out at the wound. When this is thought to be almost wholly discharged, the leaves are taken out one by one, passed through the hand to clear off any part of the juice that may yet adhere, or stick in the less open veins; and the liquor put in shallow flat-bottomed vessels, and dried gradually in the sun, until it acquires a proper consistence. What is obtained in this manner is generally called *socotorine aloes,* and is the clearest and most transparent, as well as the highest in esteem and value."[b] The method of procuring the common aloes he states to be nearly the same with that mentioned by Mr. Hughes,[c] and lately by Mr. Millington:[d] after a sufficient quantity of juice is drained from the leaves, to make it an object for the boiling house, the last-mentioned gentleman informs us, " three boilers, either of

probably the aloe mentioned by Hughes and Browne. A figure of it is given in the Gottingen Trans. for the year 1788.

2. Aloe spicata *Thunb.* (see *supp. plant.*) this is said to afford the best hepatic aloes. 3. Aloe linguæformis (see *syst. veg. ed.* 14.) This plant in the interior parts of the Cape, is selected by some as producing the best and purest aloes, *Thunb. de Med. African. p.* 7. But the greatest quantity of aloes exported from the Cape of Good Hope, is prepared from another species, not defined by Thunberg, though not uncommon in our botanic gardens V. *Physiogr. Sälsk. Handl. P.* 1. *p.* 112. and Sparrman *Resa til Goda Hoppe-udden. p.* 742, it is probably the *A.* spicata *of Thunb.*

[b] See *Browne's Jamaica, p.* 198. [c] See his History of Barbadoes, p. 159.

[d] See *London Med. Journal, V.* 8. *p.* 422.

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iron or copper, are placed to one fire, though some have but two, and the small planters only one. The boilers are filled with juice, and as it ripens or becomes more inspissated, by a constant but regular fire, it is ladled forward from boiler to boiler, and fresh juice is added to that farthest from the fire, till the juice in that nearest to the fire (by much the smallest of the three, and commonly called by the name of tatch, as in the manufactory of sugar) becomes of a proper consistency to be skipped or ladled out into gourds, or other small vessels, used for its final reception. The proper time to skip or ladle it out of the tatch, is when it is arrived at what is termed a resin height, or when it cuts freely, or in thin flakes from the edges of a small wooden slice, that is dipped from time to time into the tatch for that purpose. A little lime-water is used by some aloe boilers during the process, when the ebullition is too great." He adds, " as to the sun-dried aloes which is most approved for medicinal purposes, very little is made in Barbadoes. The process is however very simple, though extremely tedious. The raw juice is either put into bladders, left quite open at the top, and suspended in the sun, or in broad shallow trays of wood, pewter, or tin, exposed also to the sun every dry day, until all the fluid parts are exhaled, and a perfect resin formed, which is then packed up for use, or for exportation."[e]

These accounts of procuring the aloes differ considerably from that given by Dr. Wright, who says " Hepatic aloes is obtained in the following manner. The plant is pulled up by the roots and carefully cleansed from earth or other impurities. It is then sliced and cut in pieces into small hand-baskets or nets. These nets or baskets are put into large iron boilers with water, and boiled for ten minuets, when they are taken out, and fresh parcels supplied till the liquor is strong and black. At this period the liquor is thrown through a strainer into a deep vat, narrow at bottom, to cool, and to deposit its fæculent parts. Next day the clear liquor is drawn off by a cock, and again committed to the large iron

[e] Millington, l. c.

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vessel. At first it is boiled briskly, but towards the end the evaporation is slow, and requires constantly stirring to prevent burning. When it becomes of the consistence of honey, it is poured into gourds or calabashes for sale. The socotorine aloes may be prepared as above."[f]

The aloe socotorina or socotorine aloes is so named; from being formerly[g] brought from the Island Socotria or Zocotria at the mouth of the Red sea: it comes wrapt in skins and is of a bright surface, and in some degree pellucid; in the lump of a yellowish red colour with a purplish cast; when reduced into powder of a golden colour. It is hard and friable in the winter, somewhat pliable in the summer, and softens between the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable: the smell is not very unpleasant, and somewhat resembles that of myrrh. The aloe hepatica E. P. and Barbadensis L. P. the Hepatic, Barbadoes, or common aloes, is chiefly brought from Barbadoes; the best sort in large gourd shells, an inferior kind in pots, and a still worse in casks; is darker coloured than the foregoing, and not so clear or bright. It is generally drier and more compact, though sometimes, especially the cask sort, quite soft and clammy. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the aromatic flavour of the socotorine.

Another kind of aloes obtained from the aloe guineensis caballina vulgari similis sed tota maculata,* is also kept in the shops, and called aloe caballina, or horse aloes. This is easily distinguished from both the foregoing, by its strong rank smell: in other respects it agrees pretty much with the hepatic, and is now not unfrequently sold in its place. Sometimes it is prepared

[f] V. Dr. Wright's *account of the medicinal plants growing in Jamaica, in Lond. Med. Jour. Vol.* 8. *p.* 219.

[g] It is now said to be imported from the Cape by the Dutch East India Company.

* *Commel. Prael. bot. p.* 4.

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so pure and bright as scarcely to be distinguishable by the eye, even from the socotorine, but its offensive smell readily betrays it; and if this also should be dissipated by art, its wanting the aromatic flavour of the finer aloes will be a sufficient criterion. This aloe is not admitted into the Materia Medica, and is employed chiefly by farriers.

All the kinds of aloes consist of a resin united to a gummy matter, and dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also by the assistance of heat in water alone; but as the liquor grows cold, the resinous parts subside.

The hepatic aloes is found to contain more resin and less gum than the socotorine, and this than the caballine. The resins of all the sorts, purified by spirit of wine, have little smell: that obtained from the socotorine has scarce any preceptible taste; that of the hepatic, a slight bitterish relish; and the resin of the caballine, a little more of the aloetic flavour. The gummy extracts of all the sorts are less disagreeable that the crude aloes: the extract of socotorine aloes has very little smell, and is in taste not unpleasant: that of the hepatic has a somewhat stronger smell, but is rather more agreeable in taste than the extract of the socotorine: the gum of the caballine retains a considerable share of the peculiar rank smell of this sort of aloes, but its taste is not much more unpleasant than that of the extracts made from the two other sorts.[h]

Aloes is neither noticed by Hippocrates nor Theophrastus, but Dioscorides mentions two kinds; and Avicenna tells us, that of the different kinds the socotorine is the best. Celsus, however, who frequently employed aloes, does not mention any peculiar sort.

Aloes is a well known purgative; a property which it possesses not only when taken internally, but also by external application.[i]

[h] See *Edinburgh New Dispensatory.*

[i] V. *Monro's Works*, p. 306. and *Mem. de la Soc. R. de Medec. à Paris, Vol.* 2. *p.* 162.

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This cathartic quality of aloes does not, like most of the others of this class, reside in the resinous part of the drug but in the gum, for the pure resin has little or no purgative power. Boerhaave declares aloes to be an effectual and safe cathartic, but though we may have little to fear from its hypercathartic effects, yet in large doses it often produces much heat and irritation, particularly about the rectum, from which it sometimes occasions a bloody discharge: therefore, to those who are subject to piles, or of an hemorrhagic diathesis, or even in a state of pregnancy, its exhibition has been productive of considerable mischief: but on the contrary, by those of a phlegmatic constitution or suffering by uterine obstructions, and in some cases of dyspepsy, palsy, gout, and worms, aloes may be employed as a laxative with peculiar advantage. Its purgative effects are not always in proportion to the quantity taken, and as its principal use is rather to obviate costiveness than to operate strongly, this ought to be no objection to its use. Respecting the choice of the different kinds of aloes, it may be observed that the socotorine, as already mentioned, contains more gummy matter than the hepatic, and hence is found to purge with more certainty and greater irritation; therefore is most proper where a stimulus is required, or for promoting the uterine discharge: while the hepatic is better calculated for the purpose of a common purgative; and also by containing more resin answers better for external application considered as a vulnerary.

The dose of aloes is from half a scruple to half a dram, but it is seldom given alone. Several preparations of it are directed in the pharmacopœias, as pilulæ ex aloe, pilulæ ex aloe cum myrrha, extractum colocynthidum compositum. *Pharm. Lond.* pilulæ aloeticæ, pilulæ communes, v. Rufi, pilulæ ex colocynthide cum aloe, pilulæ stomachicæ, *Pharm. Ed.* tinctura aloes, tinctura aloes composita, vinum aloes *P. L.* elixir aloes v. proprietatis, elixir aloes sive proprietatis vitriolicum, vinum aloeticum. *P. E.* the pulvis aloeticus or hiera picra, and other powders.

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CONVALLARIA POLYGONATUM. COMMON SOLOMON'S SEAL.

SYNONYMA. Convallaria. *Pharm. Edinb.* Polygonatum latifolium flore majore odoro. *Bauh. Pin.* 303. Polygonatum floribus ex singularibus pediculis. *J. Bauh.* iii. *p.* 529. Polygonatum majus flore majore. *Park. Theat. p.* 696. Sweet-smelling Solomon's Seal. *Gerard. Emac.* 904. *Rati Synopsis, p.* 263. *Spec.* 2. *Rati Histor. p.* 665. *Withering. Bot. Arrang. p.* 354. *Flor. Dan. Icon.* 337.

β Polygonatum Hellebori albi folio, caule purpurascente. *Rati Synop.* 263.

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant.* 425.

Ess. Gen. Ch. Cor. sexfida. *Bacca* maculosa 3-locularis.

Sp. Ch. C. foliis alternis amplexicaulibus, caule ancipiti, pedunculis axillaribus subunifloris.

THE root is perennial, horizontal, white, fibrous, beset with knobs, and said * to be marked with circular depressions, resembling the impressions of a seal; hence the name Solomon's Seal. The stalk is inclined, angular, smooth, and rises about a foot in height: the leaves are oval, pointed, ribbed, smooth, above of a deep green colour, underneath glaucous, and at the base embrace the stem: the flowers are long, bell-shaped, white, or tinged with green; divided at the extremity into six short segments, and hang from the same side of the stalk upon slender peduncles: the filaments are six, tapering, short, and inserted in the corolla: the antheræ are oblong and erect: the style is filiform, longer than the stamina, and crowned with a blunt triangular stigma: the germen is round, and when ripe becomes a black berry, divided

* These depressions are more peculiarly characteristic of the Convallaria multiflora.

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into three cells, each containing a single round seed. It grows in the rocky and woody parts of England, and flowers in May and June.

The root, which is the medicinal part of Solomon's Seal, is very generally, by writers on the Materia Medica, referred to the Convallaria multiflora of Linnæus, or the Polygonatum latifolium vulgare of C. Bauhin. It is of a mucilaginous [b] quality, and has long been commonly employed as a discutient poultice to various kinds of tumours, but more particularly to bruises, accompanied with extravasation of blood in the cellular membrane: [c] it is also recommended as a cosmetic; and in Galen's time was used by women to remove pimples and freckles of the skin. Of its astringent effects, when taken internally, there can be no well grounded expectation. The berries, flowers, and leaves, are extremely acrid, and are said to be of a poisonous quality. [d]

[b] As a proof that these roots contain a considerable proportion of farinaceous matter, Bergius says, "Panem e radice recente, addita farina frumenti, annonæ caritate coxerunt rustici nostrates, qui fuscus fuit, & subglutinoso sapore." M. M. 271.

[c] "Cataplasma e radice familiare remedium est in sugillationibus, & in omni contusione, sanguinem grumosum efficaciter discutiens." Rutty M. M. 403.

[d] Vide Haller Stirp. Helv. No. 1243. Geoff. M. M.

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ORD. XLVII. ENSATÆ.

(From *ensis*, a Sword.)

Plants with leaves shaped like a two-edged sword, broad and embracing the stem at the base, and gradually tapering to a point at the apex.

IRIS FLORENTINA. FLORENTINE ORRIS, or IRIS.

SYNONYMA. Iris florentina. *Pharm. Lond. & Edinb. Gerard. Emac.* p. 52. Iris alba florentina. *Bauh. Pin.* p. 31. *Park. Perad.* p. 180. Iris flore albo. *J. Bauh. Hist.* ii. 719. *Raii Hist.* p. 1180. *Spec.* 2. Iris barbata foliis ensiformibus glabris brevioribus, scapo subbifloro. *Thunb. Diss. de Iride.* n. 5. Ἰρις Ἰλλυρικὴ, *Dioscor. et Græc.*

Class Triandria. *Ord.* Monogynia. *L. Gen. Plant.* 59.

Ess. Gen. Ch. *Cor.* 6-petala, inæqualis, petalis alternis geniculato-patentibus. *Stigmata* petaliformia, cucullato-bilabiata. *Thunb. Diss. de Iride.*

Cor. 6-partita: *Petalis* alternis reflexis. *Stigmata* petaliformia. *Lin.*

Sp. Ch. I. corollis barbatis, caule foliis altiore subbifloro, floribus sessilibus.

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THE root is perennial, tuberous, ponderous, somewhat compressed, branched, fibrous, externally brown, internally of a yellowish white colour: the leaves are sword-shaped, radical, inserted in each other, pointed, shorter than the stem, and of a dull green colour: the stem is round, smooth, jointed, and about a foot in height: the flowers are large, upright, of a white colour, and often have a bluish tinge: the calyx is a spatha of two valves: the corolla divides into six segments or petals, of these, three stand erect, the other three, which are of an irregular oval shape, turn back, and at the base are painted with brown lines, and bearded with yellow hairs; the filaments are three, and crowned with long yellow antheræ; the style is short and simple; the stigma separates into three expanded segments, resembling petals, which arch over the stamina; the germen is long, of an obtusely triangular shape, and placed below the corolla; the capsule has three cavities, which contain numerous flat brown seeds.

This Iris is a native of Italy, and flowers in June: it was cultivated in England by Gerard in 1596, and is now constantly propagated by the florists; but the roots of the Orris produced in this country have neither the odour, nor the other qualities, of those of warmer climates, so that for medicinal use they are commonly imported from Leghorn.

The root, in its recent state, is extremely acrid, and when chewed excites a pungent heat in the mouth, which continues several hours: on being dried, this acrimony is almost wholly dissipated, the taste slightly bitter, and the smell agreeable, and approaching to that of violets. No essential oil has been hitherto obtained from this root, but spirituous tinctures of it contain more of its virtues than watery infusions. The fresh root is a powerful cathartic, and for this purpose its juice has been employed in the dose of a dram and upwards in dropsies. It is now chiefly used in its dried state, and ranked as a pectoral, or expectorant, and hence has a place in the Trochisci amyli of the London Pharm. We have however no evidence of its expectorant powers, and

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therefore must consider it as valuable only for the pleasantness of the perfume, and the flavour which it communicates.[a]

[a] "What this might do in its recent and acrid state, I cannot determine; but in the dried state, in which we commonly have it in our shops, we are persuaded of its being a very insignificant expectorant." Cullen M. M. v. 2. p. 459.

IRIS PSEUDACORUS. YELLOW WATER FLAG.

SYNONYMA. Iris Palustris. *Pharm. Edin.* Iris palustris lutea. *Gerard. Emac.* 50. Acorus adulterinus. *Bauh. Pin.* p. 74. Acorus palustris, &c. *Park. Theat.* p. 1219. Yellow Water Flower-de-luce. *Raii Hist.* p. 1185. *Synop.* 374. Iris caule inflexo, foliis ensiformibus; petalis erectis minimis reflexis imberbibus. *Hal. Stirp. Helv.* n. 1260. Iris Pseud-Acorus. *Lightf. Fl. Scot.* p. 86. *Withering Bot. Arrang.* p. 39. *Curt. Fl. Lond.*

Class Triandria. *Ord.* Monogynia. *L. Gen. Plant.* 59.

Ess. Gen. Ch. *Cor.* 6-petala, inæqualis; petalis geniculato-patentibus. *Stigmata* petaliformia, cucullato-bilabiata. *Thunb. Diss. de Iride.*

Sp. Ch. I. imberbis, foliis ensiformibus, petalis alternis, stigmate minoribus. *Thunb.* l. c.

THE root is perennial, thicker than the thumb, of an irregular shape, horizontal, on the outside blackish, covered with rigid fibres, and puts forth many long whitish perpendicular slender roots; within it is spongy, and of a yellowish red colour; the leaves which grow from the root are upright, broad, sword-shaped, and at the bottom riding, or closely embracing, each other; those on the stalk are short, alternate, and sheathe the joints of the stem:

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the stalk is upright, round, smooth, alternately inclined from joint to joint: the flowers are large, showy, of a yellow colour, and stand upon short branches, which proceed from the joints of the stem: the corolla divides into six segments or petals, of these, the three inner ones are small and erect, the three outermost are large, of a roundish oval shape, turning back, and painted near the base with reddish lines: the calyx is a sheath, or spatha, of two, three, or four valves, according to the number of the flowers: the filaments are flat and tapering; the antheræ oblong, yellowish at the edges, purplish, and bent down by the stigmata: the germen is triangular, and placed below the corolla; the style is short and slender; the stigma divides into three petalous expansions of a yellow colour, these are oblong, bent outwards, and irregularly serrated at the extremity: the capsule is triangular, and divided into three cells, which contain numerous flat seeds of a yellow colour.

This plant is common in marshes, and on the banks of rivers, and is rendered very conspicuous by its large yellow flowers, which appear in the beginning of July. It formerly had a place in the London Pharm. under the name of Gladeolus luteus. The root is without smell, but has an acrid stiptic taste, and its juice on being snuffed up the nostrils, produces a burning heat in the nose and mouth, accompanied with a copious discharge from these organs: hence it is recommended both as an errhine and sialagogue.[a] This root is such a powerful astringent, that it has been used instead of galls in the making of ink,[b] and also for the purpose of dying black;[c] and from this quality it has been successfully employed as a medicine for the cure of diarrhæas:[d] When given with this intention, the root is to be well dried; for the fresh root and

[a] Vide Armstrong on the diseases of children, p. 146. Cullen M. M. v. ii. p. 439.

[b] Phil. Trans. No. 117. p. 397.

[c] Vide Pennant's Tour in Scotland, 1772. p. 214. Lightfoot's Flor. Scot. v. 2. p, 86.

[d] Blair's Observations, &c. p. 78.

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its juice are strongly cathartic, insomuch that 80 drops of the latter produced repeated evacuations, after jalap, gamboge, &c. had failed, and by continuing its use in an increased dose, it cured an inveterate dropsy.[e] Hence Bergius says, "*Virtus. recent.* hydragoga, purgans. *siccat.* adstringens." The expressed juice is likewise said to be an useful application to serpiginous eruptions and scrophulous tumours.[f]

[e] —— "By this time the strongest cathartics, such as Jalap, Gamboge, Mercury, &c. were quite ineffectual: whereupon Dr. Rutherford ordered 80 drops of the succus radicis, Iridis palustris, to be given every hour or two in a little syrup of buckthorn, which had very immediate effects, making him pass several Scots pints of water by stool that very night." Medical Essays, vol. 5. p. 94.——We may here remark, that this juice is very uncertain in its operation: that which is expressed from the old roots is the most active.

[f] Murray Ap. Med. vol. 5. p. 277. Lewis Mat. Med. 359.

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ORD. XLVIII. ORCHIDEÆ.

Plants of the Orchis kind.

ORCHIS MASCULA. MALE ORCHIS.

SYNONYMA. Satyrion. *Pharm. Edinb.* Orchis morio mas foliis maculatis. *Bauh. Pin. p.* 81. *Park. Theat. p.* 1364. *Raii Hist. p.* 1214. *Synop. p.* 376. Cynosorchis morio mas. *Gerard. Emac. p.* 208. Orchis radicibus subrotundis; petalis lateralibus reflexis; labello trifido; segmento medio longiori, bifido. *Hal. Stirp. Helv. n.* 1286. *tab.* 33. Orchis mascula. *Hudson. Flor. Ang. p.* 333. *Lightfoot Flor. Scot. p.* 515. *Flor. Dan. t.* 457. *Curt. Flor. Lond. t.* 121.

Class Gynandria. *Ord.* Diandria. *Lin. Gen. Plant.* 1009.

Ess. Gen. Ch. *Nectarium* corniforme pone florem.

Sp. Ch. O. bulbis indivisis, nectarii labio quadrilobo crenulato: cornu obtuso, petalis dorsalibus reflexis.

THE root is perennial, consisting of two roundish bulbs, from the upper part of which several small fibres are produced: the stalk is upright, round, smooth, solid, simple, purplish towards the top, and rises about a foot in height: the leaves are radical, long, pointed with a sharp prominent midrib, and commonly marked with dark coloured spots: the flowers are purplish, and terminate

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the stem in a long regular spike: the bracteæ are membranous, purple, lance-shaped, and generally twisted at their points: the corolla is composed of five petals, two of which are upright, of an oval pointed shape, and their tips bent inwards: the other three are placed outwardly, and approach so as to form a galea, or helmet: the lip is large, with three lobes, of which that in the middle is the longest; they are notched, and spotted towards the base, which is white; the nectarium is lengthened out behind into a tubular part, resembling a little horn: the filaments are two, short, inserted in the germen, and furnished with oval antheræ, which are incased in the limb of the nectary: the germen is oblong and twisted: the style is short, with a compressed stigma: the capsule is oblong, and contains numerous small seeds. It is common in meadows, and flowers in April and May.

This plant has a place in the Materia Medica of the Edinburgh Pharmacopœia only on account of its roots, which abound with a glutinous slimy juice, of a sweetish taste; to the smell they are faint, and somewhat unpleasant.

This mucilaginous or gelatinous quality of the Orchis root has recommended it as a demulcent, and it has been generally employed with the same intentions and in the same complaints as the root of althæa and gum arabic, both of which we have already noticed.

Salep, which is imported here from the East, and formerly held in great estimation, is now well known to be a preparation of the root of Orchis ‖ which was first suggested by Mr. J. Miller,† and different methods of preparing it have been since proposed and practised: of these the latest and most approved is that by Mr. Mault, of Rochdale,[a] which we shall transcribe from the words of Dr. Percival,[b] who follows Mr. Mault in recommending the

‖ Orchis mascula, though the chief, is not the only species from which the Salep is prepared.

† Joseph Miller *(Botan. Offic.* 1722. *p.* 385*)* to which we may add the names of *Seba* and *Heister.* This was first confirmed by *Buxbaum (Plant. min. cogn. Cent.* 3. *p.* 5.) See *Murray, Ap. Med. vol.* 5. *p.* 280.

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cultivation of a plant in Britain which promises to afford so useful and wholesome a food as the Salep.

Dr. Percival says, " Mr. Mault has lately favoured the public with a new manner of curing the Orchis root, and as I have seen many specimens of his Salep, at least equal if not superior to any brought from the Levant, I can recommend the following, which is his process, from my own knowledge of its success. The new root is to be washed in water, and the fine brown skin which covers it is to be separated by means of a small brush, or by dipping the root in hot water, and rubbing it with a coarse linen cloth. When a sufficient number of roots have been thus cleansed, they are to be spread on a tin plate, and placed in an oven heated to the usual degree, where they are to remain six or ten minutes, in which time they will have lost their milky whiteness, and acquired a transparency like horn, without any diminution of bulk. Being arrived at this state, they are to be removed, in order to dry and harden in the air, which will require several days to effect; or by using a very gentle heat they may be finished in a few hours."[c]

Salep, considered as an article of diet, is accounted extremely nutritious, as containing a great quantity of farinaceous matter in a small bulk, and hence it has been thought fit to constitute a part of the provisions of every ship's company to prevent a famine at sea. For it is observed by Dr. Percival, that this powder and the dried gelatinous part of flesh, or portable soup, dissolved in boiling water, form a rich thick jelly, capable of supporting life for a considerable length of time. An ounce of each of these

[a] See *Phil. Trans. vol.* 59. *p.* 2.

[b] Percival's Essays Med. & Exper. vol. ii. p. 39.

[c] The properest time for gathering the roots is when the seed is formed, and the stalk is ready to fall, because the new bulb, of which the Salep is made, is then arrived to its full maturity, and may be distinguished from the old one by a white bud rising from the top of it, which is the germ of the orchis of the succeeding year. *Percival, l. c.*

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articles, with two quarts of boiling water, will be sufficient subsistence for one man a day.[d] Dr. Percival not only recommends the use of Salep as other authors have done in diarrhœa, dysentery, dysury, and calculous complaints; but he thinks "in the symtomatic fever, which arises from the absorption of pus, from ulcers in the lungs, from wounds, or from amputations, Salep used plentifully is an admirable demulcent, and well adapted to resist that dissolution of the crasis of the blood which is so evident in these cases."

The supposed aphrodisiac qualities of this root, which have been noticed ever since the time of Dioscorides, seem to be founded on the fanciful doctrine of signatures.*

[d] Percival l. c. See also Lind's Appendix to his Essay on the Diseases of Hot Climates.

"Salep ex orchide morione in Suecia paratum citius solvi se passum est, quam Persicum, et tam tenacem mucilaginem exhibuit octo ejus grana in aquæ fervidæ unica una h. e. radicem in 60-plo aquæ solvendo, ut per pannum linteum non perfecte transigi posset, sed affundi insuper deberet aquæ fervidæ uncia dimidia, quo auxilio mucilago ista densitate æquavit alteram ex Salep Persico uncia una aquæ elicitam: remansit vero residui ex isto Suecico Salep granum 1½ et Persico gr. i. Murray l. c. See *Vet. Acad. Handl.* 1764. *p.* 245. *sq.*

* Orchis, i. e. Ὄρχις, Testiculus, habet radices instar testiculorum.

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ORD. XLIX. TRIPETALOIDEÆ.

(From *tres*, three, and *petalum*, a petal) having three petals.

CALAMUS ROTANG. ROTANG CANE.

Sanguis draconis, *Pharm. Lond.* & *Edinb.* e. fructibus hujus arboris maxime desumitur.

SYNONYMA. Palmijuncus Draco. *Rumph. Herb. Amb. tom. 5. p. 114. tab. 58. f. 1.* Dsierenang. *Kæmpfer. Amœn. Exot. p. 552.*

Class Hexandria. *Ord.* Monogynia. *Lin. Gen. Plant. 436.*

Ess. Gen. Ch. *Cal.* 6-phyllus. *Cor.* 0. *Bacca* exarida, 1-sperma, retrorsum imbricata.

THIS tree may be considered as a scandent kind of palm: the lower part of the stem, to the extent of two or three fathoms, is strong, erect, hollow, jointed, and beset with numerous spines; afterwards it takes a horizontal direction, and overruns the neighbouring trees to the distance of fifty or even one hundred feet: the leaves are several feet long, and composed of numerous pinnæ, which are nearly a foot long, narrow, sword-shaped, and at the

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edges serrated with spinous teeth: the flowers are produced in spikes, which separate into long spreading branches: the calyx is divided into six persistent leafits, three exterior and three interior; the former are very short and pointed, the latter are oblong, concave, rigid, and unite closely, so as commonly to conceal the inner parts of the flower: it has no corolla: the filaments are six, capillary, and furnished with round antheræ: the germen is roundish, placed above the insertion of the calyx, and the style is trifid, filiform, twisted in a spiral manner, and terminated by simple stigmata: the fruit is somewhat larger than that of a filbert, membranous, round, one-celled, covered with regular inverted obtuse scales, and contains a red resinous pulp, which soon becomes dry: the seed is round and fleshy. It is a native of the East Indies, where it commonly grows in woods near rivers, and has long supplied Europe with walking-canes, which have usually been imported by the Dutch.

According to Linnæus there are several varieties of the Calamus Rotang, which he has founded upon the different figures of this tree given by Rumphius; but whether these are varieties only, or distinct species, it is not for us to determine. The specimens of the Calamus in the herbariums of Sir Joseph Banks and Dr. Smith, differ considerably in their foliage; so that different species of this obscure genus will probably in future be systematically defined; our business however has only been to select for delineation that which accorded best with the descriptions of it given by Rumphius and Kæmpfer, conformably to the synonyms to which we have referred.

Several trees are known to abound with a red resinous juice, which is obtained by wounding the bark, and called dragon's blood, as the Pterocarpus Draco or Pterocarpus officinalis of Jacquin, the Dracaena Draco, the Dalbergia monetaria, and the Pterocarpus sontolinus.—Besides these, many of the Indian red woods, while growing, pour forth through the fissures of the bark a blood-coloured juice, forming a resinous concretion, to which

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the name dragon's blood has been affixed.[a] This drug however is chiefly obtained from the fruit of the Calamus Rotang, and is procured at the Molucca Islands, Java, and other parts of the East Indies, according to Kæmpfer, by exposing this fruit to the steam of boiling water, which softens the external shell, and forces out the resinous fluid, which is then inclosed in certain leaves, of the reed kind, and hung in the air to dry. Another way of obtaining the Sanguis Draconis is by simply boiling the fruit in water, inspissating the strained decoction, and drying it in the same manner as the former. In Palimbania the external surface of the ripe fruit is often observed covered with the resin, which is rubbed off by shaking the fruit together in a bag; when this is done, the drug is melted by the sun's heat, and formed into globules, which are folded in leaves: this is deemed the purest kind of dragon's blood; and that which is next in goodness is procured by taking the fruit, which is found to be still distended with resin, out of the bag, and, after bruising it, exposing it to the sun, or boiling it gently in water; the drug then appears floating upon the surface, and is skimmed off and shaped into small cakes. The inferior sort of dragon's blood is that which rises from the crude fruit after being long boiled, and is usually formed into very large cakes, or masses, in which the membranous parts of the fruit, and other impurities, are intermixed. It is also brought to us adulterated, or artificially composed, in various ways. Both the small globules, and the large masses, which we have noticed, are imported here, and found to vary widely in goodness and purity.

[a] As some of the Crotons, (vide *Linn. Supp. p.* 319) and other trees noticed by Cranz, *de duabus draconis* arboribus. *ad. p.* 13. An exudation similar to the sanguis draconis produced from a tree at Botany Bay, was discovered by Sir Joseph Banks and Dr. Solander. Vide *Hawkesworth's Collection of Voyages, vol. 3. p.* 498. *&* 505. But the substance now known at New South Wales by the name of red gum, is perfectly soluble in water; the yellow gum of this place is however in its chemical and medicinal qualities not very different from sanguis draconis, and has been successfully employed as an astringent by Dr. Blane. See *Phillip's Voyage to New South Wales. p.* 59.

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The best kind of this gummy resinous substance breaks smooth, is of a dark red colour, and when powdered changes to crimson; it readily melts, and catches flame. It is not acted upon by watery liquors, but it totally dissolves in pure spirit, and soluble likewise in expressed oils. It has no smell, but to the taste discovers some degree of warmth and pungency.

The Cinnabris and Sanguis Draconis appear to have signified the same thing with the Ancient Greeks,* who were well acquainted with the astringent power of this medicine; and in this character it has since been much employed in hæmorrhages and alvine fluxes. At present however it is rarely used internally, being superseded by more certain and effectual remedies of this numerous class; and it enters no officinal composition but that of emplastrum thuris of the London Pharmacopœia.

* Κιννάβαρι, αἷμα δράκοντος.

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ORD. L. CALAMARIÆ.

ORD. LI. GRAMINA.

Grapes, grass-like plants.

SACCHARUM OFFICINARUM. COMMON SUGAR CANE.

Saccharum non purificatum, & purificatum. *Pharm. Lond.*

SYNONYMA. Arundo saccharifera. *Bauh. Pin. p.* 18. *Park. Theat. p.* 1210. Arundo saccharina. *Gerard. Emac. p.* 38. *Raii Hist. p.* 1278. *Conf. Sloane's Jamaica, tom. i. p.* 108. *t.* 66. *Rumph. Herb. Amb. tom.* 5. *p.* 186. *t.* 74. *f.* 1. *Hughes's Barbadoes, p.* 244. *t.* 23. *f.* 1. *Browne's Jamaica, p.* 129. *Cazaud in Phil. Trans. vol.* 69. *P.* 1. *t.* 3.

Class Triandria. *Ord.* Digynia. *Lin. Gen. Plant.* 73.

Ess. Gen. Ch. *Cal.* 2-valvis, lanugine involucratus. *Cor.* 2-valvis. *Hort. Kew.*

Sp. Ch. S. floribus paniculatis, foliis planis.

THE root is perennial, knotted, and fibrous: the stem is simple, or undivided, jointed, smooth, about two inches in diameter, and rises from eight to eighteen feet in height: the leaves are long, simple, sword-shaped, and embrace the stem: the flowers are small, and produced in a terminal loose panicle: the calyx is a gluma of

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two valves, which are oblong, or lance-shaped, pointed, erect, concave, equal, and the base surrounded with long woolly hairs; the corolla is composed of two valves, shorter than those of the calyx, and of a fine delicate texture: the nectarium is divided into two leafits: the filaments are three, capillary, of the length of the corolla, and furnished with oblong antheræ: the germen is oblong, and supports two feathered styles, terminated by a plumose stigma: the seed is oblong, and is invested by the corolla.

The Sugar Cane is a native of Africa, and Lower Asia, as the East Indies and Arabia felix; it is also said to grow spontaneously in America; but others assert that it was unknown in these regions till Europeans possessed it. For a considerable time however it has been industriously cultivated in the American Islands situated within the tropics, and was two centuries ago introduced into the garden of that assiduous botanist Mr. Gerard.

We have before remarked on the subject of manna, that several vegetables secrete a sweet or saccharine juice, easily converted into sugar. The Arundo Bambo L. distils from its joints a fluid, which, by the heat of the sun, concretes into sugar, and is collected for use.[a] A considerable quantity of Sugar is annually obtained in America from the Acer saccharina, a species of Maple. The inhabitants of New Spain procure Sugar from the Agave americana: it is likewise obtained from the Asclepias syriaca, and Zea Mays. Nor are the inhabitants of the northern regions wholly destitute of vegetables which furnish this useful article; for at Kamschatska it is produced from the Heracleum Syphondylium and fucus saccharinus.[b]

The plant here figured affords the Sugar in common use, which is prepared from its expressed juice, boiled with the addition of quick lime, or the common vegetable alkali.[c] The boiling is

[a] See *Pison. Mant. Aromat. p.* 186. It is also procured from the Borassus flabelliformis & Cocos nucifera.

[b] Several roots and fruits likewise afford Sugar. [c] The use of this is to imbibe the superfluous acid.

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repeated in smaller and smaller vessels, during which it is often necessary to scum the impurities, and employ additional alkali; when the juice acquires a due consistence, it is suffered to cool in a proper vessel, and the saccharine matter concretes into a crystalized mass. This, after being separated from the melasses, is sold under the name of brown or moist Sugar; the saccharum non purificatum, of the London Pharmacopœia.

The Sugar may be purified in conical moulds, by spreading on the upper broad surface some moist clay, which gradually transfuses its watery moisture through the mass of Sugar, and carries with it a considerable part of the remains of the treacly matter; it is then called clayed Sugar. The saccharum purificatum, or loaf Sugar, is prepared in this country from the other Sugar boiled in water, to which is added lime water, also bullocks blood, or eggs, or commonly both; these are found to clarify the Sugar, by incorporating with its oily and mucilaginous parts, and forming a scum, which is carefully taken off. After sufficient clarification it is strained through a woollen cloth, and boiled again until it becomes of a proper consistence; it is then poured into a refrigeratory, and when duly cooled, into conical moulds made of clay, and perforated at the apex, which is placed downwards: at first the aperture at the apex of the mould is stopped up, but as the Sugar concretes it is opened, in order that the syrup or melasses may drain off. By this draining of the fluid part, the cone of Sugar shrinks at the base below the edges of the mould, which, to render the loaf still whiter, is filled up with moist clay closely applied to the base of the Sugar cone: lastly, the cone is placed upon its base, taken out of the mould, wrapped in paper, and dried or baked in a close oven.

Solutions of brown or white Sugars, boiled down until they begin to grow thick, and then removed into a very hot room, shoot upon sticks placed across the vessels for that purpose into brown or white crystals of candy, (saccharum crystalinum.)

Sugar, as an article of diet, is so well known as not to require

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any description of it here: it is manifestly a neutral saline substance, the acid of which Bergman first taught us to separate by means of the nitrous acid:[d] and it since appears that several other substances, both vegetable and animal, contain an acid similar to that of Sugar.[e] The other constituent parts of Sugar seem to be an oily and mucilaginous matter; and though it is not yet satisfactorily explained how a combination of these substances should produce on the organs of taste a sensation of sweetness, yet as it is known that the strong vitriolic acid becomes sweet by uniting it to spirit of wine, we may easily conceive that the sweetness of Sugar may be effected in a somewhat similar way.

From the known properties of Sugar, it has been supposed to unite the unctuous part of the food with the animal juices, and hence it has been thought to increase corpulence or fatness; others however have thought that a contrary effect would be produced by this quality of sugar, viz. by preventing the separation of the oily matter from the blood, which forms fat. Professor Murray, who has treated this subject very elaborately,[f] thinks that by the fermentation which Sugar undergoes in the stomach, and by its relaxing resolvent saponaceous qualities, as well as by the acid which it contains, it rather tends to emaciate than to fatten the body; and in this opinion he observes that he has the authority of Boerhaave, who says if this sweet be taken in large quantities it produces emaciation by dissolving too much of the animal oil. He is therefore much surprized, that Mr. John Hunter should lately recommend Sugar and honey as the best restoratives to those suffering from great debility by a long course of mercury.[g]

[d] See his *Diss. de acido sacchari, published in* 1776.

[e] See *Berthollet in Mem. de l'Acad. &c.* 1780. *p.* 120. Also *Scheele in Vet. Acad. Handl.* 1785. *p.* 23. *sq.*

[f] See *App. Med. vol.* 5.

[g] He says, "Miror ideo, quod adhuc nuper Cl. J. Hunter (Treatise on the Venereal disease, p. 354. sq.) saccharum tanquam optimum restaurans in hominibus diuturno jejunio debilitatis vel mercurii usu emaciatis proposuerit, &c.." *L. c. p.* 410.

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What may be the effects of Sugar in this respect in its refined state may be difficult to determine; but in its crude state there can be no doubt of its affording a considerable share of nourishment, both as combined in various vegetable matters, and as separated by art. Those animals, which wholly feed upon it in the Sugar islands, become remarkably corpulent; and the negro children, whose diet happens sometimes for a season to be confined to melasses, are easily distinguished from others by their superior bulk;* they are however more disposed to suffer by worms, and are likewise less active and healthy.

Sugar however appears by the experiments of several writers to prove deleterious to various kinds of worms, either by immersing them in a solution of Sugar, or sprinkling it upon their bodies;[h] and twenty grains of lump Sugar forced into the stomach of a frog, produced immediate torpor and death, which followed in the course of an hour:[i] it also proved fatal to pigeons, and to the gallinæ kind, but not to sparrows; and with sheep and dogs it had no other effect than that of a cathartic.[k]

Sugar may certainly be taken into the stomach in pretty large quantities without producing any bad consequences, though proofs are not wanting of its mischievous effects, in which, by its attenuating and dissolving the fluids, and relaxing the solids, debility and disease are said to have been produced. Stark[l] for many days took from four ounces of Sugar to eight, ten, sixteen, and even twenty, with bread and water, by which nausea, flatus, ulceration in the mouth, with redness and tumefaction of the gums, oppression, purging, pain, and redness of the right nostril,

* In Asia, Elephants and other animals are fed upon Sugar. See *Abridgment of Evidence on Slave Trade.*

[h] See *Redi obs. de animalcul. vivis in corp. viv. p.* 166. *sq.*

[i] *Carminati Opusc. Therap. vol. i. p.* 113.

[k] *Carm. l. c.*

[l] Vide *Clinical & anatomical observations with experiments dietetical & statical.*

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bleeding at the nose, and livid streaks over the right scapula, were produced. We are also told that a boy who was much affected by acidity of the stomach, in a short time greedily ate a large quantity of lump Sugar; soon afterwards he was taken ill, and the next morning found dead in his bed. Upon examining his body, red spots, and other marks of a dissolved state of the blood were discovered.[m] What degree of credit ought to be given to these and other cases of the like kind, we leave to the judgment of our readers: but that the liberal use of Sugar to many stomachs has greatly impaired the digestive powers, and laid a foundation for various complaints, is highly probable. At the same time we must admit, that several indulge largely in this article, if not with advantage, at least with impunity.

As a medicine, Sugar cannot be considered to possess much power. Dr. Cullen classes it with the attenuantia; and Bergius states it to be saponacea, edulcorans, relaxans, pectoralis, vulneraria, antiseptica, nutriens. In catarrhal affections both sugar and honey are frequently employed: it has also been advantageously used in calculous complaints; and from its known power in preserving animal and vegetable substances from putrefaction, it has been given with a view to its antiseptic effects. The candy, by dissolving slowly in the mouth, is well suited to relieve tickling coughs and hoarseness. The use of Sugar in various medicinal compositions is too obvious to require being particularly pointed out.

[m] *Rosia in Carminati, l. c. p.* 129.

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ORD. LII. FILICES.

Ferns.

POLYPODIUM FILIX MAS. MALE POLYPODY, Or, COMMON MALE FERN.

SYNONYMA. Filix. *Pharm. Lond. & Edinb.* Filix non ramosa dentata. *Bauh. Pin. p.* 358. Filix vulgò mas dicta, sive non ramosa. *J. Bauh. Hist. vol.* iii. *p.* 737. Filix mas non ramosa pinnulis latis densis minutim dentatis. *Gerard. Emac. p.* 1129. Filix mas vulgaris. *Park. Theat. p.* 1036. *Raii Hist. p.* 143. *Synop. p.* 120. Polypodium, pinnis pinnatis, obtusis, dentatis. *Hal. Stirp. Helv. n.* 1701. *Bolton. Filices. Brit. p.* 44. Creditur esse πτερις *Dioscorid.* et *Theophr.*

Class Cryptogamia. *Ord.* Filices. *Lin. Gen. Plant.* 1179.

Ess. Gen. Ch. *Fructific.* in punctis subrotundis sparsis per discum frondis.

Sp. Ch. P. Frondibus bipinnatis: pinnis obtusis crenulatis, stipite paleaceo.

THE root is large, long, firm, and covered with thick brown scales, placed in an imbricated order, and furnished with many long black tough fibres: the general leaves are from one to four feet in length, the ribs of which when young are thickly beset with brown tough transparent scales: the figure of the whole leaf is lance-shaped, broadest in the middle, and gradually decreases to

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each extremity, terminating above in an acute point; the partial, or second leaves, are from fifteen to forty pairs, remote on the lower part, growing gradually nearer upwards, and running together at the top: the lobes are from seven to fifteen pairs, which are largest at the bottom, and regularly decrease towards the top, where they unite into a point; each lobe is of an oval shape, and a little indented at its upper extremity: the seed-vessels are placed in two rows on the back of the lobes, in number from three to six, of a kidney-shape, and covered with a pellicle; they are at first white, and afterwards change to a bluish or ash-colour; when the seeds are ripe, the pellicle bursts, and after the discharge of the seeds the vessels become brown, and appear as if covered with dust. It is a native of Britain, and grows about the borders of woods near rivulets, and in stony rocky places.

The root of the male fern has lately been greatly celebrated for its effects upon the tape-worm, or Tænia lata, of Linnæus; and this vermifuge power of fern-root seems to have been known to the ancients;[a] and is since commended by different practical writers.[b] Yet notwithstanding the virtues of this root are thus recorded, its use was very generally neglected till some years ago. Madame Noufer, a surgeon's widow, in Switzerland, acquired great celebrity, by employing a secret remedy as a specific in the cure of the tape-worm. This secret was thought of such importance by some of the principal physicians in Paris,[c] who were deputed to make a complete trial of its efficacy, that it was purchased by the French king, and afterwards published by his order.[d] The method of cure has been stated as follows: After the patient has been prepared by an emollient clyster, and a supper of panada, with butter

[a] *Dioscorid.* M. M. lib. 4. cap. 186. Theophrast. Hist. Plant. lib. 9. Galen de Simp. Med. lib. 8. *Pliny.* lib. 28. cap. 9.

[b] *F. Hoffman*, and others.

[c] Lassone, Macquer, De La Motte, Jussieu, Carburi, and Cadet.

[d] Précis du Traitement contre le Tænias ou Vers solitaires, pratiqué à Morat en Suisse, examiné et apprové à Paris. Publié par ordre du Roi; à Paris, 1775.

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and salt, he is directed to take in the morning, while in bed, a dose of two or three drams of the powdered root of male fern. (The dose for infants is one dram.) The powder must be washed down with a draught of water, and two hours after a strong cathartic, composed of calomel and scammony, is to be given, proportioned to the strength of the patient. If this does not operate in due time, it is to be followed by a dose of purging salts, and if the worm be not expelled in a few hours, this process is to be repeated at proper intervals. Of the success of this, or a similar mode of treatment, in cases of tænia, there can be no doubt, as many proofs of it in this country afford sufficient testimony;[e] but whether the fern root or the strong cathartic is the principal agent in the destruction of the worm, may admit of a question, and the latter opinion we believe is the more generally adopted by physicians.[f] It appears, however, from some experiments made in Germany, that the tænia has in several instances been expelled by the repeated exhibition of the root, without the assistance of any purgative.[g]

[e] See Dr. Simmon's "Account of the Tænia," &c.

[f] Dr. Cullen has published this opinion. See Mat. Med. art. Filix. See also Dr. Simmon's l. c. pref. p. 7.

[g] Vide C. C. Gmelin. *Consid. gen. filicum. p.* 84. Wendt. *Nachricht vom. clin. Inst. zu Erlangen, Pens. 5. et 6. p.* 44. 46.

POLYPODIUM VULGARE. COMMON POLYPODY.

SYNONYMA. Polypodium. *Pharm. Dale.* 63. *Alston. i.* 496. *Rutty.* 405. *Lewis.* 519. *Edinb. New Dispens.* 259. *Bergius.* 844. *Murray. v.* 449. *Gerard. Emac.* 1132. *Raii. Hist.* 137. *Synop.* 117. Polypodium foliis pinnatis lanceolatis radice squamata. *Hall. Hist. n.* 1696. Polypodium vulgare. *Bauh. Pin.* 359. *Park. Theat.* 1039. *Hudson. Ang.* 387. *Withering. Bot. Arr. iii.* 55. *Ic. Curtis. Lond. Bolton. Fil. Brit. t.* 18.

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Cryptogamia Filices. *Lin. Gen. Plant.* 1179.

Gen. Ch. *Fructif.* in punctis subrotundis, sparsis per discum frondis.

Sp. Ch. P. frondibus pinnatifidis: pinnis oblongis subserratis obtusis, radice squamata.

ROOT perennial, creeping, in an horizontal direction, somewhat thicker than a goose's quill, externally yellowish, internally greenish, covered with brown scales, and beset with small tubercles, from which issue numerous fibres. Stalks or stipites smooth, tapering, grooved on the upper side. Frondes or leaves from half a foot to a foot in length, pinnated; pinnæ oblong, slightly serrated, obtuse. Capsules placed in a row on each side of the midrib of the leaf: they are of a roundish form, and granulated appearance, furnished with footstalks, and opening horizontally into two hemispheres, which are surrounded by an elastic ring. Seeds numerous, oval or reniform, yellow.

It grows on old walls, stumps and roots of trees, and various shady places, fructifying from June till October.

" The leaves of Polypody have a weak ungrateful smell, and a nauseous sweet taste, leaving a kind of roughness and slight acrimony in the mouth. They give out their smell and taste, together with a yellow colour, both to water and rectified spirit: the spirituous tincture is sweeter than the watery; but in inspissation its sweetness is in great part destroyed, or covered by the other matter; the spirituous extract, as Cartheuser observes, being to the taste only subastringent and subacrid, with very little sweetness, while the watery extract retains the full sweetness of the polypody."*

The root of the Polypodium quercinum, or those that grow on the oak, has been most esteemed for medicinal use, though no just reason can be assigned for this preference. By the ancients it was

* *Lewis. l. c.* Gmelin tried to obtain sugar from this root, but without success. See *Dissert. Consideratio generalis filicum. p.* 39.

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employed as a pugative, and thought to be peculiarly useful in expelling bile and pituitous humours; therefore much used in maniacal melancholical disorders; but to act as cathartic the root must be exhibited in its recent state, and in a large dose. Another character in which it has been recommended, and for which from its sensible qualities it seems to promise more advantage, is that of a demulcent or pectoral; thus joined with liquorice its good effects have been experienced in coughs and asthmatic affections.

However it is now rarely used in this country; nor have the French authors, Poissonier and Malouin,[b] who have cited instances of its success in mania, been able to restore to it its ancient reputation in this calamitous disorder.

[b] See *Med. de L'Acad. de Scien. de Paris.* 1751.

ASPLENIUM SCOLOPENDRIUM. HARTS-TONGUE.

SYNONYMA. Scolopendrium seu Lingua cervina. *Pharm. Ed.* Lingua cervina officinarum. *Bauh. Pin.* 350. *Ger. Emac.* 1138. *Park. Theat.* 1046. *Ray. Hist.* 134. *Synop.* 116. Asplenium petiolis hirsutis, folio longe lineari lanceolata, integerrimo circa petiolum exsicco. *Hall. Hist. n.* 1095. Asplenium, Frondes lanceolatæ, &c. *Scop. Fl. Carn.* A. Scolopendrium. *Hudson. Flor. Ang.* 384. *Withering. Bot. Arr. iii.* 51. *Ic. Bolton. Fil. Brit. t.* 11. *Curt. Flor. Lond.*

Cryptogamia Filices. *Lin. Gen. Plant.* 1178.

Gen. Ch. *Fructific.* in lineolis disci frondis sparsis.

Sp. Ch. A. frondibus simplicibus cordato-lingulatis integerrimis, stitibus hirsutis.

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ROOT perennial, furnished with numerous fibres, which are brown and subdividing. Stipites or stalks simple, beset with mossy hair, extending along the midrib. Leaves long, tongue-shaped, pointed, entire, smooth, often a foot in length, of a shining yellowish green colour, and waved at the margin. Fructifications placed in oblique lines on each side of the midrib of the leaf. Involucrum a membranous linear-shaped vesicle, opening longitudinally. Capsules numerous, on footstalks, globular, furnished with an elastic ring like those of Polypodium. The seeds, which are exceedingly minute, and very numerous, are thrown to a considerable distance by the vessel containing them, being violently forced open by the elastic power of the ring.

It grows on moist shady rocks, old walls, and at the mouths of wells and caverns, producing its fructifications in August and September.

Besides the names above-mentioned, this plant has also been called hemionitis and phyllitis: it is supposed to possess medicinal qualities in common with several other species of the same genus, as golden and common maiden hair, wall-rue, and common spleenwort, which were termed the *five capillary herbs,* and formerly held in great estimation. To the taste they are slightly astringent, mucilaginous, and sweetish; and they change a solution of iron to a black colour; their smell is inconsiderable, except the scolopendrium, which, when recent, and rubbed, manifests a disagreeable odour.

They have been formerly used to strengthen the viscera, restrain hæmorrhages and alvine fluxes, expel gravel, and to open obstructions of the liver and spleen; as well as for the general purposes of demulcents and pectorals, as noticed when speaking of common maidenhair, which with the present plant are the only two of the five capillary herbs retained in the Materia Medica of the Edinburgh Pharmacopœia.

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ASPLENIUM TRICHOMANES. COMMON MAIDENHAIR, Or SPLEEN-WORT.

SYNONYMA. Trichomanes. *Pharm. Edinb. Park. Theat. p.* 1051. *Raii Hist. p.* 140. *Synop. p.* 119. *Hall. Hist. Stirp. Helv. p.* 1693. Trichomanes Mas. *Ger. Emac. p.* 1146. Trichomanes sive Polytrichum officinarum, *Bauh. Pin. p.* 356. Aspl. Trichomanes. *Hudson. Flor. Ang. p.* 452. *Withering. Botan. Arr. Vol.* 3. *p.* 52. *Relhan. Flor. Cant. p.* 388. *Ic. Flor. Dan. p.* 119. *Bolton. Fil. Brit. p.* 22. *t.* 13.

Class Cryptogamia. *Ord.* Filices. *Lin. Gen. Plant.* 1178.

Ess. Gen. Ch. *Fructificationes* in lineolis disci frondis sparsis.

Sp. Ch. A. frondibus pinnatis: pinnis subrotundis crenatis.

THE root is perennial, consisting of numerous slender fibres, of a dark brown colour; the general leaves are numerous, pinnated, six or eight inches in length; the ribs of which are smooth, and of a shining blackish colour; the pinnæ are sessile, somewhat roundish, indented at the edges, placed oppositely, and consisting of about twenty pairs, of which the largest stands in the middle of the leaf; the others gradually decrease towards each extremity, especially the upper: the fructifications, or seed vessels, are placed on the back of the pinnæ or lobes of the leaf, and form a row of three or four on each side of the midrib: at first they are yellowish, and are covered with a thin membrane, which when at maturity bursts, and discharges the contents over the other leaves.

It is common in this country, and is usually found on old walls and rocks in moist and shaded situations.

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This plant we figure on the authority of the Edinburgh Pharmacopœia.

The leaves have a mucilaginous sweetish subastringent taste, without any particular flavour; they are esteemed useful in disorders of the breast, proceeding from a thickness and acrimony of the juices; and are likewise supposed to promote the expectoration of tough phlegm, and to open obstructions of the viscera. They are usually directed in effusion or decoction, with the addition of a little liquorice. A syrup prepared from them, though it has now no place in our pharmacopœias, is frequently to be met with in our shops, both as prepared at home and imported from abroad. A little of these syrups mixed with water makes a very pleasant draught. The syrup brought from abroad has an admixture of orange flower-water.*

* *Ed. N, Dispens. p.* 209.

The other Medicinal Plants of this Order, are

Systematic Names.	Officinal.	English.
Pteris aquilina	Filix femina	Common Fern
Adiantum capillus veneris	Capillus veneris	True Maidenhair
Asplenium Ceterach	Ceterach	Common Spleenwort
Asplenium ruta muraria	Ruta muraria	Wall-rue
Equisetum arvense	Equisetum	Corn Horse-tail

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ORD. LIII. MUSCI.

ORD. LIV. ALGÆ.

(Sea Weeds,)

According to Linnæus this Order belongs to those plants which have their root, leaves, and caudex all in one.

LICHEN ISLANDICUS. ERYNGO-LEAVED LICHEN.

SYNONYMA. Lichen islandicus. *Pharm. Edinb.* Lichen foliis oblongis laciniatis: marginibus conniventibus caliatis. *Flor. Lapp. p.* 445. *Roy. Lugdb. p.* 508. *Hall. Stirp. Helv.* 75. Lichen terrestris, foliis eryngii. *Buxb. cent.* 2. *p.* 11. *t.* 6. *f.* 1. 2. Lichenoides rigidum, eryngii folia referens. *Dill. Hist. Musc. p.* 209. *t.* 28. *f.* 111. Lichenoides islandicum. *Hoffm. Pl. Lichenos. vol.* 1. *fasc.* 2. *tab.* 9. *f.* 1. *p.* 41. *Flor. Dan.* 155. *Giscke* 50. *Mich. t.* 44. *f.* 4. Conf. *Withering. Bot. Arr. p.* 196.

Class Cryptogamia. *Ord.* Algæ. *Lin. Gen. Plant.* 1202.

Ess. Gen. Ch. Masc. Receptaculum subrotundum, planiusculum, nitidum.

Fem. Farina foliis adspersa.

D. Foliacei.

Sp. C. L. foliaceus adscendens laciniatus: marginibus elevatis ciliatis.

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THIS Lichen is foliaceous, erect, large: the leaves are crowded, connected together, tough, membranous, two or three inches long, variously sinuated, or divided into irregular blunt lobes, turned in at the edges, and fringed with short strong bristles: the surface is smooth, shining, channelled, and of a pale green or brown colour: the fructifications or scutella are large, of a reddish brown colour, and placed on the lobes of the leaves. It is a native of Britain, particularly on the mountains of Wales and Scotland.

The medicinal qualities of the Lichen Islandicus have lately been so well established at Vienna, that this plant is now admitted into the Materia Medica of the Edinburgh Pharmacopœia. It is extremely mucilaginous, and to the taste is bitter and somewhat astringent: its bitterness, as well as the purgative quality which it manifests in its recent state, are in a great measure dissipated on drying, or may be extracted by a slight infusion in water, so that the inhabitants of Iceland convert it into a tolerably grateful and nutritive food. An ounce of this Lichen, boiled a quarter of an hour in a pint of water, yielded seven ounces of a mucilage as thick as that procured by the solution of one part of gum arabic in three of water.

The medical virtues of this Lichen were probably first learned from the Icelanders, who employ it in its fresh state as a laxative,[a] but when deprived of this quality, and properly prepared, we are told that it is an efficacious remedy in consumptions, coughs, dysenteries, and diarrhæas. Scopoli seems to have been the first who of late years called the attention of physicians to this remedy in consumptive disorders;[b] and further instances of its success are related by Herz,[c] Cramer,[d] Tromsdorff,[e] Ebeling,[f] Paulizky,[g] Stoll,[h]

[a] See Borrichius in Bartholini, *Act. Med. Hafn.* 1761. *p.* 126. Olafsen *Reise igiennem Island. tom. i. p.* 159.

[b] *Ann. hist. nat. i.* 1769. *p.* 112. *& Ann. ii. p.* 141.

[c] *Briefe an Verzte, vol.* 2. [d] [e] *Diss. de Lichene Islandico.*

[f] *Diss. de Quassia et Lichene Islandico.*

[g] *Med. Pract. Beob.* 2. *Samml.* 101.

[h] *Rat. Med. P.* 2.

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and others, who bear testimony of its efficacy in most of the other complaints above mentioned. Dr. Herz says, that since he first used the Lichen in dysentery, he found it so successful that he never had occasion to employ any other remedy; it must be observed, however, that cathartics and emetics were always repeatedly administered before he had recourse to the Lichen, to which he also occasionally added opium.

Dr. Crichton informs us,[1] that during seven months residence at Vienna he had frequent opportunities of seeing the Lichen Islandicus tried in phthisis pulmonalis at the General Hospital, and confesses, "that it by no means answered the expectation he had formed of it." He adds, however, "From what I have seen, I am fully convinced in my own mind, that there are only two species of this disease where this sort of Lichen promises a cure. The two species I hint at, are the *phthisis hæmoptoica*, and the *phthisis pituitosa*, or *mucosa*. In several cases of these I have seen the patients so far get the better of their complaints as to be dismissed the hospital cured; but whether they remained long so or not I cannot take upon me to say." That this Lichen strengthens the digestive powers, and proves extremely nutritious, there can be no doubt; but the great medicinal efficacy attributed to it at Vienna will not readily be credited at London. It is commonly given in the form of a decoction; an ounce and a half of the Lichen being boiled in a quart of milk. Of this a tea-cupful is directed to be drank frequently in the course of the day. If milk disagree with the stomach, a simple decoction of the Lichen in water is to be used. Care ought to be taken that it be boiled over a slow fire, and not longer than a quarter of an hour.

[1] See *Medical Journal, vol. 10. p. 233.*

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LICHEN CANINUS. ASH-COLOURED GROUND LIVERWORT.

SYNONYMA. Lichen cinereus terrestris. *Pharm. Dale.* 59. *Alston.* 353. *Lewis.* 386. *Ed. New Dispens.* 219. *Murray. v.* 524. *Raii. Hist.* 117. *Synop.* 76. *Hall. Hist. n.* 1988. Lichen caninus. *Hudson. Flor. Ang.* 546. *Relhan. Flor. Cant.* 434. *Withering. Bot. Arr. iii.* 203. *Ic. Blackw.* 330. *Dill. Hist. Musc. p.* 290. *t.* 27. *f.* 102. *Flor. Dan.* 767.

Cryptogamia Algæ, *Lin. Gen. Plant.* 1202.

Gen. Ch. *Masc. Receptaculum* subrotundum, planiusculum, nitidum.

Fem. Farina foliis adsperma.

E. Coriacei.

Sp. Ch. L. coriaceus repens lobatus obtusus planus: subtus venosus villosus, pelta marginali adscendente.

GROWING on the ground, consisting of creeping leaves, of a leather-like substance, greenish, or ash-coloured, and appearing as if covered with a farinaceous substance, about a span in length, one or two inches in breadth, widening towards their extremities, separated into lobes, which are short, blunt, single, or in strata; beneath woolly, veined, and attached by slender white fibres. Peltæ or targets round or oblong, terminal, hard, solid, ascending, of a reddish brown colour. It grows on heaths, dry pastures, and woods.

This vegetable has a weak faint smell, and a mucid sharpish taste. It was for a long time highly extolled as a medicine of singular virtue in preventing and curing that dreadful disorder which is produced by the bite of rabid animals. The pulvis antilyssus, a powder composed of equal parts of this lichen and

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black pepper,[a] was first recommended as a preservative against the rabies canina by Mr. Dampier, brother of the celebrated circumnavigator of that name; and by the authority of Sir Hans Sloane it was published in the Philosophical Transactions.[b] This powder was afterwards adopted in the London Pharmacopœia in 1721, at the desire of Dr. Mead, who appears to have had repeated experience of its good effects, and who declares that he had never known it to fail where it had been used, with the assistance of cold bathing before the hydrophobia came on. He directs the patient to be blooded to the extent of nine or ten ounces; afterwards a dram and a half of the powder is to be taken in the morning fasting in half a pint of cow's milk warm, for four mornings successively. After these four doses are taken, the patient is directed to go into the cold bath every morning for a month, and then three times a week for a fortnight longer.

On the character of Mead the pulvis antilyssus was long retained in the London Pharmacopœia; but on the revision of that book in 1788 it was deservedly expunged.

[a] This was the original composition; but the quantity of pepper rendering the medicine too hot, the powder was prepared of two parts of the lichen and one of pepper.

[b] *Vol.* 20. *p.* 49. In the *History of the Royal Society* we are told that a dog became rabid, and bit several other dogs belonging to the Duke of York; but by the timely administration of this lichen, they were all preserved from madness. Vol. 492. and vol. 3. 19.

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ORD. LV. FUNGI.

(σφογγος Fungus, a mushroom)

Vegetables of the mushroom tribe.

BOLETUS IGNIARIUS. TOUCHWOOD BOLETUS, or AGARIC.

SYNONYMA. Agaricus chirurgorum. *Pharm. Edinb.* Agaricus quernus. *Pharm. gener.* Fungus in caudicibus nascens, unguis equina figura. *Bauh. Pin.* 372. Polyporus sessilis, convexo-planus, durissimus, cinereus, inferne albus. *Hall. Helv. n.* 2288. *Rati. Synop.* 22. *n.* 7. B. igniarius. *Hudson. Flor. Ang.* 625. *Withering. Bot. Arr. iii.* 425. *Lightfoot. Flor. Scot.* 1034. *Ic. Flor. Dan.* 935. *Bulliard.* 82. & 491. *Schæffer.* 137, 138. *Battarra.* 37. *f. c.*

Cryptogamia Fungi. *Lin. Gen. Plant.* 1210.

Gen. Ch. *Fungus* horizontalis: subtus porosus.

* *Parasitici, acaules.*

Sp. Ch. B. acaulis pulvinatus lævis, poris tenuissimis.

TUBES green, grey, red, or brownish. *Pores* yellowish, changing to red brown, very fine. *Pileus* shaped like a horse's hoof, smooth, blackish. *With. l. c.*

This fungus is sessile, horizontal, consisting of a very hard woody substance, shaped somewhat like a horse's hoof; on the upper side smooth, but marked with circular ridges of different colours: the under side is flat, white, or yellowish, full of very minute pores: the internal substance is fibrous, hard, tough, of a tawny brown colour. Seeds oval, contained in the tubes.

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Tubes very slender, equal, colour of tanned leather; in old plants stratified, a fresh layer being added every year. *Pileus* very hard, admitting of a polish by rubbing; marked with concentric bands or ridges, each broad ridge indicating a year's growth, and three or four small ones that of the different seasons of the year, varying extremely in colour. *Flesh* fibrous. *Bulliard.*

It grows on the trunks of trees, and varies in size from two to seven or eight inches in diameter.

This fungus has been specifically named Igniarius, from being used in some places as tinder. For this purpose the Germans boil it in strong lye, dry it, and boil it again in a solution of saltpetre.[a]

This Agaric has been much used by surgeons as an external styptic, and that produced on the oak has been generally preferred. Its use was first borrowed from the French; and it was successively recommended by Brossard, Morand, Bouquot, Faget, Rochard, De Mey, who employed it not only to restrain the bleedings in wounds, but to prevent hæmorrhages after amputations, which it is reported to have done as effectually as the ligature. Several English surgeons have also published cases in which the Agaric was successfully used, as Sharp, Warner, Gooch, and others.

It must not be concealed, however, that several others, soon after the introduction of the use of the Agaric in this country, declared it to be an ineffectual application; and at this day, though it may be useful in certain cases, yet in hæmorrhages from the larger arteries, the ligature is the only remedy depended on both in France and England.

To prepare the Agaric for surgical purposes, the hard outer part is cut off, and the soft inner substance is divided into pieces of different sizes, and beat with a hammer to render it still softer.

[a] We are informed by Gleditch, that in Franconia they beat pieces of the inner substance of this fungus, so as to resemble soft leather, and sew them together to form garments.

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IPECACUANHA. IPECACUAN.

Ipecacuanha. *Pharm. Lond. & Edinb.*

AFTER the great diligence of naturalists in exploring every quarter of the world, to extend the science of botany, it seems surprising that the plant Ipecacuanha, the roots of which have been in common use more than a century, should not have yet been botanically ascertained. It has been referred to several different genera, as that of paris, euphorbia, lonicera, viola, pyschotria, &c.; and though this last has lately been thought to be the genus to which it belongs, and consequently named P. emetica by the younger Linnæus; yet the authority on which Mutis received the information, we cannot implicitly follow; and the figure before us, though evidently the true Ipecacuanha plant, not being advanced to a state of inflorescence, leaves this matter still undetermined. For the plant here represented, we are obliged to Sir Joseph Banks; to whom it was sent (preserved in spirits) from Brazil by Governor Phillips; and though it is not in a state of perfection, we trust it will, as a curiosity, be thought a valuable addition to our plates.

Piso divides this root into two sorts, the white and the brown, or according to Geoffroy, the Peruvian and Brazilian Ipecacuanha;[a] but three sorts are evidently distinguishable in our shops, viz. ash-coloured or grey, brown, and white. The ash-coloured is brought from Peru, and "is a small wrinkled root, bent and contorted into a great variety of figures, brought over in short pieces full of wrinkles and deep circular fissures, down to a small white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth and resinous upon breaking: it has very little smell; the taste is bitterish and subacrid, covering the,

[a] *Pison. Ind. res. Med. et Nat. p.* 231.

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tongue as it were with a kind of mucilage. The brown is small, somewhat more wrinkled than the foregoing; of a brown or blackish colour without, and white within; this is brought from Brazil (and corresponds with our specimen). The white sort is woody, has no wrinkles, and no perceptible bitterness in taste. The first, the ash-coloured or grey Ipecacuan, is that usually preferred for medicinal use. The brown has been sometimes observed, even in a small dose, to produce violent effects. The white, though taken in a large one, has scarce any effect at all."[b] Dr. Irving has ascertained by experiments,[c] that this root contains a gummy and resinous matter, and that the gum is in much greater proportion, and is more powerfully emetic than the resin: that the cortical part is more active than the ligneous, and that the whole root manifests an antiseptic and astringent power. He also found its emetic quality to be most effectually counteracted by means of the acetous acid, insomuch that thirty grains of the powder taken in two ounces of vinegar, produced only some loose stools.

The first account we have of Ipecacuan is that published by Piso, in 1649; but it did not come into general use till thirty years afterwards, when Helvetius,[d] under the patronage of Louis XIV. employed it at the Hotel de Dieu, and introduced this root into common practice; and experience has proved it to be the mildest and safest emetic with which we are acquainted, having this peculiar advantage, that if it does not operate by vomit, it readily passes off by the other emunctories.

It was first introduced to us with the character of an almost infallible remedy, in dysenteries and other inveterate fluxes, as diarrhœa, menorrhagia, and leucorrhœa, and also in disorders proceeding from obstructions of long standing: nor has it lost

[b] *Edin. New Dispens. p.* 211.

[c] See the Dissertation which obtained the prize medal of the Harveian Society of Edinburgh, for 1784.

[d] See *Recueil des Methodes, p.* 280.

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much of its reputation by time. The use of Ipecacuan in these fluxes, is thought to depend upon its restoring perspiration; for in these cases, especially in dysentery and diarrhœa, the skin is dry and tense; and while the common diaphoretics usually pass off by stool, small doses of this root have been administered with the best effects, proving both laxative and diaphoretic.[e] In the spasmodic asthma, Dr. Akenside[f] remarks, that where nothing contraindicates repeated vomiting, he knows no medicine so effectual as Ipecacuan. In violent paroxysms a scruple procures immediate relief. Where the complaint is habitual, from three to five grains every morning, or from five to ten every other morning, may be given for a month or six weeks.

This medicine has also been successfully used in hemorrhages.[g] Several cases of menorrhagia are mentioned by Dahlberg,[h] in which one third or half a grain was given every four hours till it effected a cure. These small doses are likewise found of great use in catarrhal and even consumptive cases, as well as in various states of fever. Dr. Cullen informs us,[i] that he knew a practitioner who cured intermittents by giving five grains of Ipecacuanha, or enough to excite nausea, an hour before the accession of the fit was expected; and that "Dr. Thompson, formerly of Montrose, proposed to cure agues by the employment of emetics given at the time of accession, or at the end of the cold stage: and this practice has also been successful, and may indeed be executed by tartar emetic; but in trying such practices, I have found the Ipecacuanha more manageable than the other, and generally to be more easy to the patient."

[e] Dr. Cullen attributes its good effects entirely to its purgative quality, *M. M. Vol.* 2. *p.* 477.

[f] *Med. Trans. vol.* 1. *p.* 96.

[g] See Gianella de admirabili Ipec. virtute in curandis febribus. Patav. 1754. Also Bergius (M. M. p. 103.) and others.

[h] *Vet. Acad. Handl. vol.* 31. *p.* 316. *a* 1770.

[i] l. c.

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Ipecacuan, particularly in the state of powder, is now advantageously employed in almost every disease in which vomiting is indicated; and when combined with opium, under the form of pulvis sudorificus, it furnishes us with the most useful and active sweating medicine which we possess. It is also given with advantage in very small doses even when it produces no sensible operation. The full dose of Ipecacuan in substance is a scruple, though less doses will frequently produce an equal effect. The officinal preparation is vinum ipecacuanhæ.

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In order that this work should contain the whole of the vegetable MATERIA MEDICA, *included in the* LONDON *and* EDINBURGH PHARMACOPŒIAS, *it has been thought necessary to add the following*

APPENDIX.

Ammoniacum (gummi resina) *Pharm. Lond. & Edinb.*

THIS concrete gummy-resinous juice is composed of little lumps, or tears, of a milky whiteness: the external parts of the mass are yellowish or brownish, and the white tears change to the same colour on being exposed for some time to the air.

We have hitherto had no information concerning the plant which produces this drug, nor of the manner in which it is obtained: judging however from the seeds and pieces of an umbelliferous plant, with which it is often intermixed, there is no doubt of its being the produce of a vegetable of this kind; and as Ammoniacum is very analogous to galbanum, the former, as well as the latter, is probably procured from a species of the Bubon. According to the ancient account of this drug, it was produced in the west of Egypt, where the famous temple of Jupiter Ammon formerly stood, now the kingdom of Barca. At present it is brought here from Turkey, and from the East Indies.

Ammoniacum has a strong and somewhat ungrateful smell, and a nauseous sweetish taste, followed by bitterness. Its effects are similar to those of galbanum, or rather of assafœtida, but it has been generally preferred to either of these for resolving obstructions of the lungs; hence it is chiefly employed in asthmas and difficulty of expectoration. In large doses it opens the bowels.

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Angustura (cortex) *Pharm. Edinb.*

ANGUSTURA Bark is imported here in thin convex pieces, of about an inch and an half or less in breadth, and about six inches in length. It is not fibrous, but hard, compact, of a yellowish brown colour, and covered with a whitish uneven epidermis. Reduced to powder it has the yellow appearance of rhubarb. To the taste it manifests a bitterish and an aromatic quality, leaving a sensation of heat upon the tongue, which continues for some time. Its odour, when recent, is said to be ungrateful, but in its dried state this is not perceptible. An ounce of the bark affords, by means of alcohol, about two drams of a resinous bitter extract; and nearly three drams and a half of a gummy extract may be obtained from the like quantity, by water.

Some have contended that this drug should be called Augustine, from St. Augustin in East Florida; but it seems more properly named Angustura, which is a place in South America, whence it was brought by the Spaniards to the Island of Trinidad.

From what tree it is obtained we find no certain account. It has been supposed to be the bark of the Magnolia glauca; but, with more probability, it has been since thought to be that of the Brucea antidysenterica; (see *Bruce's Travels, &c. vol. 5. p. 69.* and *J. F. Miller, tab. 25.*) or Brucea ferruginea of L'Heritier and Aiton: (*Hort. Kew. iii.* 397) for the description of the bark of this tree, given by Mr. Bruce, agrees very well with the cortex angusturæ; and as far as can be judged by the bark of a living plant of this species, now growing in the Royal Garden at Kew, this opinion is still further confirmed.

During the last five years, in which the Angustura bark has been known as a medicine in this country, it has been successfully used in the characters of a febrifuge, tonic, and astringent. In intermittents it has been found equally effectual as Peruvian bark,

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and generally more acceptable to the stomach; and in cases of diarrhœa, dyspepsia, scrophula, and great debility, it has been found to be an useful remedy. (See *Brande, in London Med. Journal for* 1790.)

Balsamum Peruvianum. *Pharm. Lond. & Edinb.*

THE tree which produces this balsam was not botanically ascertained till the year 1781, when a specimen of it was sent by Mutis, from Terra Firma, to the younger Linnæus, who has described it in the Supplementum plantarum under the name of *Myroxylon peruiferum*. Its synonyma are Hoitziloxitl. *Hernand. Thes. rer. Med. Nov. Hisp. p.* 51. *cum. fig.* and Cabureiba Pis. *Ind. Hist. Nat. et Med. p.* 119.

It grows in Peru, Brasil, Mexico, and Terra Firma.

Two kinds of this balsam are imported here; the common or black, and the white. The first, which is chiefly used, is about the consistence of a syrup, of a dark opake reddish brown colour, inclining to black, and of an agreeable aromatic smell; and a very hot pungent taste.

Balsam of Peru is a very warm aromatic medicine, hotter than any of the other natural balsams; hence in cold phlegmatic habits, it has been given to warm the constitution, strengthen the nervous system, and attenuate viscid humours. It has been also used by surgeons in certain wounds and ulcers.

The White Balsam of Peru, or white storax, is brought here in gourd shells, and is of a pale yellow colour, thick, and tenacious, becoming by age solid and brittle.

This balsam is less hot than the former, but of a more agreeable fragrant smell, approaching somewhat to that of storax.

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Balsamum Canadense. *Pharm. Lond. & Edinb.*

THIS balsam is the resinous juice of the Pinus Balsamea, or Balm of Gilead Fir; a tree now well known in this country: which should have been figured with the other pines, but the drawing of it was at that time unfortunately mislaid.

This balsam, which is transparent, of a light amber colour, and tolerably firm consistence, is brought to this country from Canada; and hence receives the name of Canada balsam. It may be considered as one of the purest of the turpentines; and on this account it has lately been received into the Materia Medica; and from being less offensive to the stomach, promises to supersede the balsam of Copaiva.

Cassia lignea. (*cortex, flores nondum explicatæ.*) *Pharm. Edinb.*

IN the Edinburgh Pharmacopœia this is referred to the Laurus Cassia; but we have already stated the cassia to be only a variety of the Cinnamomum, and late observations tend to confirm this opinion. As a medicine it is certainly in every respect inferior to cinnamon.

Colomba (radix) *Pharm. Lond. & Edinb.*

Synonyma. Calumba. Redi, Exp. circa varias res naturales, 1685. p. 142. *Raiz de Mosambique* of the Portuguese.

WE have no botanical account of the vegetable which furnishes this root. It is brought from Colomba in Ceylon in knobs, or circular pieces, brown, and wrinkled on the outer surface, yellowish within, and consisting of cortical, woody, and medullary lamina. Its smell is aromatic; its taste is pungent, and nauseously bitter.

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Practitioners in the East Indies first borrowed the use of this root from the natives of those countries where it is produced, and found it of great service in most disorders of the stomach and bowels, and especially in the cholera, so fatal in hot climates. It stopped the vomiting in this complaint, more speedily and effectually than any other medicine; an effect attributed to its property of correcting the putrid disposition of the bile. With this intention its use has been recommended by Dr. Percival; and it has been successfully used in this country, not only in bilious complaints, but in various cases of dyspepsia.

Cubeba. *Pharm. Lond. & Edinb.*

IT is generally admitted that this is a species of pepper, and in the Supplementum plantarum a description of the Piper Cubeba, a shrub growing in the woods of Java, is given: but we have no certain account that this is the species which furnishes the officinal cubebs; nor have we any information of the manner in which this fruit is collected.

The long footstalk attached to the Cubeba distinguishes it at first sight from the other kinds of pepper, and hence it has been called Piper caudatum. Though still retained in both the British Pharmacopœias, it is much inferior to pepper, and has justly fallen into disuse.

Elemi (resini) *Pharm. Lond.*

THE London College refers this resin to the Amyris Elemifera of Linnæus; but this celebrated naturalist, in applying the name Elemifera to Catesby's Frutex trifolius resinosus floribus tetrapetalis albis racemosis, has since acknowledged himself to have been mistaken; as appears in the Amœn. Acad. vol. 7. where he supposes the Elemi to be produced by a species of Bursera.

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However, the parent plant of this resin is still unascertained.

Elemi is brought here from the Spanish West Indies; it is most esteemed when softish, somewhat transparent, of a pale whitish colour, inclining a little to green, and of a strong, though not unpleasant smell.

Its use is confined to ointments and plasters.

Gambogia (gummi-resina) *Pharm. Lond. & Edinb.*

BY the industry of Kœnig, a physician who resided many years at Tranquebar, it has been lately discovered that the genuine Gamboge is the concrete juice of a tree which constitutes a new genus, under the name Stalagmitis (*Schr. Gen.* 1585). It belongs to the class Polygamia monœcia, and is fully described by Professor Murray in the Comment. Gotting. (9. p. 175.) and App. Med. Vol. 4.

The Cambogia gutta of Linnæus, according to Kœnig, also affords a yellow juice; but this, on drying, acquires a brownish hue, and is considered as a spurious kind of Gamboge.

Gamboge is brought from the East Indies, and is well known to operate powerfully both upwards and downwards. Geoffroy says, that its emetic tendency is counteracted, if given in combination with mercurius dulcis, and that it may be given with less danger from its violence, in a liquid form than in substance. In hydropic cases it is often used to quicken the operation of other purgatives.

Though the ordinary dose of this cathartic is two or three grains, yet for the expulsion of the tape worm it has been given, with an equal quantity of vegetable alkali, to the extent of fifteen grains.

Kino (resina) *Pharm. Lond. & Edinb.*

Seu gummi rubrum astringens gambiense.

THE tree, from which this resin is obtained, though not yet botanically ascertained, is known to grow on the banks of the river Gambia, in Africa. The first account of this drug is related by

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Moor in his "*Travels into the interior parts of Africa,*" *Ed.* 2. *p.* 113. by which we learn, that on wounding the bark of the tree, the fluid Kino immediately issues drop by drop, and by the heat of the sun is formed into a hard mass. This, which was for some time considered as a species of sanguis draconis, was afterwards fully explained, and its medical character established, by Dr. John Fothergill. *(Med. Obs. & Inq. vol.* 1.*)*

Kino has a considerable resemblance to catechu, but redder, and is more firm, resinous, and astringent. It is now in common use, and is the most efficacious vegetable astringent, or styptic, in the Materia Medica.

Myrrha (gummi-resina) *Pharm. Lond. & Edinb.*

THOUGH Mr. Bruce *(Travels to discover the Source of the Nile, vol.* 5. 27.*)* was unable to obtain a botanical specimen of the tree which produces Myrrh, yet, from his account of it, we have no doubt in referring it to the genus mimosa; for in his opinion it very nearly resembles the *acacia vera,* which is the mimosa nilotica; and this corresponds with the description of the tree given by Dioscorides. The trees producing Myrrh grow on the eastern coast of Arabia Felix, and in that part of Abyssinia which is situated near the Red Sea, and called by Mr. Bruce Troglodyte. The same author says, "In order to have Myrrh of the first or more "perfect sort, the Savages chuse a young vigorous tree, whose "branches are without moss or any parasite plant, and above the "first large branches give the tree a deep wound with an axe. "The Myrrh which flows the first year through this wound is "Myrrh of the first growth; and never is in any great quantity. "This operation is performed some time after the rains have "ceased, that is, from April to June, and the Myrrh is produced "in July and August. The sap, once accustomed to issue through "the gash, continues so to do spontaneously at the return of every "season: but the tropical rains, which are very violent, and con-

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" tinue six months, wash so much dirt, and lodge so much water " in the cut, that in the second year the tree has begun to rot " and turn foul in that part, and the Myrrh is of a second quality, " and sells in Cairo about a third cheaper than the first. The " Myrrh also produced from gashes near the roots, and in the " trunks of old trees, is of the second growth and quality, and " sometimes worse. This, however, is the good Myrrh of the " Italian shops every where in Venice. It is of a black red foul " colour, solid, and heavy, losing nothing in weight, and easily " distinguished from that of Arabia Felix. The third and worst " kind is gathered from old wounds or gashes formerly made in " old trees, or Myrrh that, passing unnoticed, has hung upon the " tree a whole year, of a black earth-like colour, heavy, with " little smell or bitterness." *(Phil. Trans. vol. 65.)*—Mr. Bruce also says, that sassa gum is fraudulently mixed with the Myrrh.

The medicinal effects of Myrrh are warm, corroborant, and antiseptic; it has also been successfully employed in phthisical cases as a pectoral; and though allied to some of the balsams, it is found to be more efficacious and less irritating to the system.

Palma (fructus oleum expressum) *Pharm. Edinb.*

PALM oil is produced chiefly from the Cocos butyracea, thus specifically named from the butter-like appearance of the oil which it yields. It is well known, however, that other palms furnish this unctuous substance, as the Elaeis Guineensis L. (see *Jacquin*); also " The palm-oil tree" of Sloane, or Palma oleosa of Hughes. To these we may add the Palma dactylifera aculeata fructu corallino major of Barrere *(de la France equinoxiale)*, and the spinous palms (Palmiers Avoira) mentioned by Aublet *(Guiane Franc. tom. 2. App. p. 95.)*

In the Supplementum plantarum we find not only a full description of the Cocos butyracea, on the authority of Mutis, but also an account of the method used to obtain the oil by the inhabitants of the warmer parts of America, where this palm is a native.

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The fruit of this palm, which is triangular, yellow, and about the size of a plum, is bruised and thrown into water, by which the kernels are gradually dissolved without the aid of heat; the oil then rises to the surface, and on being washed two or three times is rendered fit for use.

When brought to this country, it is of the consistence of an ointment, and of an orange yellow colour, with little taste, and of a strong though not disagreeable smell. When it becomes white it is rancid, and ought to be rejected. In the countries where this oil is produced, it is used for culinary and dietetic purposes; with us it has been confined to external application, in pains, tumours, and sprains; but it seems to have no advantage over the other bland oils.

Sagapenum (gummi resina) *Pharm. Lond. & Edinb.*.

IT is conjectured that this concrete juice is the production of an umbelliferous plant, like ammoniacum, and for the same reasons. It is brought from Persia and Alexandria in large masses, externally yellowish, internally paler, and of a horny clearness. Its taste is hot and biting, its smell of the alliaceous or fœtid kind.

Its virtues are similar to those which we have ascribed to assafœtida, but weaker, and consequently it is less powerful in its effects.

Sarcocolla (gummi-resina) *Pharm. Lond.*

LINNÆUS supposes this to be produced by the Penæa mucronata, an Ethiopian shrub of the order conglomeratæ. Others however have, in this instance, doubted his authority, and the fact is still undetermined.

Sarcocolla is a concrete juice, brought from Persia and Arabia in small grains of a pale yellow, having also sometimes mixed with them a few of a deep red colour. Its taste is bitter, but followed

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with some degree of sweetness. It has been chiefly used for external purposes, and, as its name imports, has been thought to conglutinate wounds and ulcers; but this opinion now no longer exists.

It is an ingredient in the pulvis è cerussa.

Radix Indica Lopeziana. *Pharm. Edinb.*

THIS root is called after Lopez, a Portuguese, who, according to Redi, found it growing in the province of Zanquebar in Africa; But Gaubius states it to be a native of Asia, and brought from Goa in Malacca to Batavia.

To what tree this root is to be referred we have not the means to determine.

The root is brought in pieces of eight or nine inches in length, and from one to two inches in thickness, though generally smaller, consisting of a whitish or straw-coloured light wood, having a brownish firm medullary substance. Its bark is soft, wrinkled, brown, somewhat spongy, and covered with a thin yellowish epidermis.

This root, which possesses no remarkably sensible qualities, is regarded in the East Indies as a medicine of extraordinary efficacy in diarrhœas; and the numerous trials of it, made by Gaubius, and others, have tended greatly to confirm its reputation.

Its dose, in powder, is from 15 to 30 grains, repeated three or four times a day.

THE END.

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CATALOGUE,

In which all the Plants composing the MATERIA MEDICA, as referred to by the Colleges of London and Edinburgh, are arranged according to the System of Linnæus, and distinguished respectively by the letters L E.

CLASS I. MONANDRIA.

ORD. MONOGYNIA.

Amomum *Zingiber*	L	E
Cardamomum	L	E
Kæmpferia *rotunda*	L	E
Curcuma *longa*	L	E

II. DIANDRIA.

MONOGYNIA.

Olea *europæa*	L	E
Veronica *Beccabunga*	L	—
Gratiola *officinalis*	L	E
Rosmarinus *officinalis*	L	E
Salvia *officinalis*	L	E

TRIGYNIA.

Piper *nigrum*	L	E
longum	L	E
Cubeba	L	E

III. TRIANDRIA.

MONOGYNIA.

Valeriana *officinalis*	L	E
Tamarindus *indica*	L	E
Crocus *sativus*	L	E
Iris *florentina*	L	E
Pseudo Acorus	—	E

DIGYNIA.

Saccharum *officinarum*	L	E
Hordium *distichon*	L	—
Triticum *hybernum*	L	—
Avena *sativa*	L	—

IV. TETRANDRIA.

MONOGYNIA.

Rubia *tinctorum*	L	E
Plantago *major*	—	E
Dorstenia *Contrajerva*	L	E
Santalum *album*	—	E

V. PENTANDRIA.

MONOGYNIA.

Anchusa *tinctoria*	—	E
Menyanthes *trifoliata*	L	E
Spigelia *marilandica*	L	E
Convolvulus *Scammonia*	L	E
Jalapa	L	E
Cinchona *officinalis*	L	E
Verbascum *Thapsus*	—	E
Datura *Stramonium*	—	E
Hyoscyamus *niger*	—	E
Nicotiana *Tabacum*	L	—
Atropa *Belladonna*	—	E
Solanum *Dulcamara*	—	E

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Psychotria *emetica*	L	E
Capsicum *annuum*	L	E
Chironia *Centaurium*	L	E
Rhamnus *catharticus*	L	E
Ribes *rubrum*	L	—
nigrum	L	—
Vitis *vinifera*	L	—
DIGYNIA.		
Chenopodium *Vulvaria*	—	E
Ulmus *campestris*	L	E
Gentiana *lutea*	L	E
purpurea	—	E
Salsola *Kali*, &c.	L	E
UMBELLATÆ.		
Eryngium *maritimum*	L	—
Daucus *Carota*	L	E
Conium *maculatum*	L	E
Ferula *Assa fœtida*	L	E
Angelica *Archangelica*	L	E
Bubon *Galbanum*	L	E
Cuminum *Cymynum*	L	E
Coriandrum *sativum*	L	E
Sium *nodiflorum*	L	—
Imperatoria *Ostruthium*	—	E
Pastinaca *Opoponax*	L	—
Anethum *graveolens*	L	E
Fœniculum	L	E
Carum *Carui*	L	E
Pimpinella *Saxifraga*	—	E
Anisum	L	E
Apium *Petroselinum*	L	E
TRIGYNIA.		
Sambucus *nigra*	L	E
PENTAGYNIA.		
Linum *usitatissimum*	L	E

VI. HEXANDRIA.

MONOGYNIA.

Allium *sativum*	L	E
Lilium *candidum*	—	E
Scilla *maritima*	L	E
Convallaria *Polygonatum*	—	E
Aloë *perfoliata*, &c.	L	E
Acorus *Calamus*	L	E
Calamus *Rotang*, &c.	L	E

TRIGYNIA.

Rumex *aquaticus*	—	E
Acetosa	L	E
Colchicum *autumnale*	L	E

VII. HEPTANDRIA.

MONOGYNIA.

Æsculus *Hippo-castanum*	—	E

VIII. OCTANDRIA.

MONOGYNIA.

Amyris *Elemifera*	L	—
gileadensis	—	E
Daphne *Mezereum*	L	E

TRIGYNIA.

Polygonum *Bistorta*	L	E

IX. ENNEANDRIA.

MONOGYNIA.

Laurus *Cinnamomum*	L	E
Cassia	—	E
Camphora	L	E
Nobilis	L	E
Sassafrass	L	E

TRIGYNIA.

Rheum *palmatum*	L	E

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X. DECANDRIA.

MONOGYNIA.

Cassia *Senna*	L	E
Fistula	L	E
Guaiacum *officinale*	L	E
Dictamnus *albus*	L	—
Ruta *graveolens*	L	E
Toluifera *Balsamum*	L	E
Myroxylon *peruiferum*	L	E
Hæmatoxylum *Campechianum*	L	E
Quassia *amara*	L	E
Simaruba	L	E
Rhododendron *chrysanthum*	—	E
Copaifera *officinalis*	L	E
Arbutus *Uva ursi*	L	E
Styrax *officinale*	L	E
Benzoë	L	E

DIGYNIA.

Saxifraga *granulata*	—	E
Dianthus *Caryophyllus*	L	E

PENTAGYNIA.

Oxalis *Acetosella*	L	—

XI. DODECANDRIA.

MONOGYNIA.

Asarum *europæum*	L	E
Canella *alba*	L	E

XII. ICOSANDRIA.

MONOGYNIA.

Myrtus *Pimenta*	L	E
Punica *Granatum*	L	E
Amygdalus *communis*	L	E
Prunus *spinosa*	L	—
domestica	L	—

PENTAGYNIA.

Pyrus *Cydonia*	L	E

POLYGYNIA.

Rosa *centifolia*	L	E
canina	L	—
gallica	L	E
Rubus *idæus*	L	—
Potentilla *Reptans*	L	—
Tormentilla *erecta*	L	E

XIII. POLYANDRIA.

MONOGYNIA.

Papaver *somniferum*	L	E
Rhœas	L	—
Caryophyllus *aromaticus*	L	E
Cistus *creticus*	L	—

TRIGYNIA.

Delphinium *Staphisagria*	L	—
Aconitum *Napellus*	L	E

POLYGYNIA.

Helleborus *niger*	L	E
fœtidus	L	—
Clematis *recta*	—	E
Anemone *pratensis*	—	E

XIV. DIDYNAMIA.

GYMNOSPERMIA.

Teucrium *Marum*	L	—
Scordium	L	E

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Hyssopus *officinalis*	—	E
Lavendula *Spica*	L	E
Mentha *piperita*	L	E
spicata, Hud.	L	E
Pulegium	L	E
Glecoma *hederacea*	L	—
Marrubium *vulgare*	L	E
Origanum *vulgare*	L	—
Majorana	L	E
Thymus *Serpyllum*	—	E
vulgaris	—	E
Melissa *officinalis*	L	E

ANGIOSPERMIA.

Digitalis *purpurea*	L	E

XV. TETRADYNAMIA.

SILICULOSA.

Cochlearia *officinalis*	L	E
Armoracia	L	E

SILIQUOSA.

Sisymbrium *Nasturtium*	L	E
Sinapis *nigra*	L	E
Cardamine *pratensis*	L	E

XVI. MONADELPHIA.

POLYANDRIA.

Althæa *officinalis*	L	E
Malva *sylvestris*	L	E

XVII. DIADELPHIA.

HEXANDRIA.

Fumaria *officinalis*	—	E

OCTANDRIA.

Polygala *Senega*	L	E

DECANDRIA.

Pterocarpus *santalinus*	L	E
Dolichos *pruriens*	—	E
Spartium *scoparium*	L	E
Geoffroya *inermis* Wrig.	—	E
Glycyrrhiza *glabra*	L	E
Trigonella *Fœnum græcum*	L	E
Astragalus *Tragacantha*	L	E

XVIII. POLYADELPHIA.

ICOSANDRIA.

Citrus *Medica*	L	E
Aurantium	L	E

POLYANDRIA.

Hypericum *perforatum*	L	—

XIX. SYNGENESIA.

POLYGAMIA ÆQUALIS.

Cynara *Scolymus*	L	E
Leontodon *Taraxacum*	L	E
Arctium *Lappa*	L	E

POLYGAMIA SUPERFLUA.

Tancetum *vulgare*	L	E
Artemisia *Abrotanum*	L	E
Absinthium	L	E
vulgaris	—	E
maritima	L	—
Santonicum	L	E

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Tussilago *Farfara*	L	E
Inula *Helenium*	L	E
Arnica *montana*	L	E
Anthemis *nobilis*	L	E
pyrethrum	L	E
Achillea *Millefolium*	—	E

POLYGAMIA FRUSTRANEA.

Centaurea *benedicta*	L	E

MONOGAMIA.

Lobelia *siphilitica*	—	E
Viola *odorata*	L	E

XX. GYNANDRIA.

DIANDRIA.

Orchis *mascula*	—	E

HEXANDRIA.

Aristolochia *Serpentaria*	L	E
rotunda, &c.	—	E

POLYANDRIA.

Arum *maculatum*	L	E

XXI. MONOECIA.

MONANDRIA.

Myristica *moschata* Thunb.	L	E

TETRANDRIA.

Urtica *dioica*	L	E
Morus *nigra*	—	E

POLYANDRIA.

Quercus *Robur*	L	E
Juglans *regia*	L	—

MONADELPHIA.

Pinus *species variæ*	L	E
Croton *Cascarilla*	L	E
Ricinus *communis*	L	E

SYNGENESIA.

Momordica *Elaterium*	L	—
Cucumis *Colocynthis*	L	E
Bryonia *alba*	—	E

XXII. DIOECIA.

DIANDRIA.

Salix *fragilis*	—	E

PENTANDRIA.

Pistacia *Terebinthus*	L	—
Lentiscus	L	E

HEXANDRIA.

Smilax *Sarsaparilla*	L	E

MONADELPHIA.

Juniperus *communis*	L	E
Lycia	L	E
Sabina	L	E
Cissampelos *Pareira*	L	—

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XXIII. POLYGAMIA.

MONOECIA.

Veratrum *Album*	L	E
Parietaria *officinalis*	L	E
Stalagmitis *Cambogioides*, Mur.	L	E
Mimosa *nilotica*	L	E
Catechu	L	E

DIOECIA.

Fraxinus *Ornus*, &c.	L	E
Panax *quinquefolium*	L	E

TRIOECIA.

Ficus *Carica*	L	E

XXIV. CRYPTOGAMIA.

FILICES.

Asplenium *Trichomanoides*	—	E
Polypodium *Filix mas*	L	E

ALGÆ.

Lichen *islandicus*	—	E

FUNGI.

Boletus *igniarius*	—	E

APPENDIX, Palmæ.

Cocos *butyracea*	—	E

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The following ARRANGEMENT is extracted from the MATERIA MEDICA, published by Dr. CULLEN.

MATERIÆ MEDICÆ TABULA GENERALIS.

In qua Medicamenta ad Capita quædam secundum indicationes morborum curatorias quibus respondent, referuntur.

MATERIA MEDICA constat ex

- NUTRIMENTIS quæ sunt,
  - *Cibi*, Sect. I.
  - *Potus*, S. II.
  - et quæ cum his assumuntur *Condimenta*, S. III.
- MEDICAMENTIS quæ agunt in
  - Solida.
    - Simplicia.
      - *Astringentia*, Cap. I.
      - *Tonica*, C. II.
      - *Emollientia*, C. III.
      - *Erodentia*, C. IV.
    - Viva
      - *Stimulantia*, C. V.
      - *Sedantia.*
        - *Narcotica*, C. VI.
        - *Refrigerantia*, C. VII.
      - *Antispasmodica*, C. VIII.
  - Fluida.
    - Immutantia
      - Fluiditatem.
        - *Attenuantia*, C. IX.
        - *Inspissantia*, C. X.
      - Misturam.
        - Acrimoniam corrigentia.
          - In genere
            - *Demulcentia*, C. XI.
          - In specie
            - *Antacida*, C. XII.
            - *Antalkalina*, C. XIII.
            - *Antiseptica*. C. XIV.
    - Evacuantia.
      - *Errhina*, C. XV.
      - *Sialogoga*, C. XVI.
      - *Expectorantia*, C. XVII.
      - *Emetica*, C. XVIII.
      - *Cathartica*, C. XIX.
      - *Diuretica*, C. XX.
      - *Diaphoretica*, C. XXI.
      - *Menagoga*, C. XXII.

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CATALOGUE OF THE VEGETABLE MATERIA MEDICA,

According to the preceding TABLE.

I. NUTRIMENTA.

A. FRUCTUS.

a. *Acido-dulces recentes.*

Prunum
Aurantium
Limonium
Rubus idæus
Ribes rubrum
—— nigrum
Morum
Uvæ vitis

b. *Acido-dulces siccatæ.*

Uvæ passæ majores
———— minores
Caricæ

B. HERBÆ OLERACEÆ.

Nasturtium aquaticum
Taraxacum
Petroselinum
Cinara

C. RADICES.

Daucus
Allium
Satyrion

D. SEMINA *Nuces.*

Amygdalæ
———— dulces
———— amaræ
Juglans
Olivæ

II. MEDICAMENTA.

I. ADSTRINGENTIA.

Rosa rubra
Pentaphyllum
Tormentilla
Rubia
Acetosa
Hydrolapathum
Bistorta
Filix
Trichomanes
Granatum
Quercus
Gallæ
Lignum campechense
Cydonia
Morum
Pruna sylvest.
Acacia
Catechu
Sanguis draconis
Adstringentia varia
Anchusa
Balustina
Hypericum
Millefolium
Plantago
Convallaria
Uva ursi

II. TONICA.

Gentiana
Centaureum minus
Quassia
Simaroubra
Trifolium palustre
Fumaria
Chamæmelum
Tanacetum
Absynthium
Abrotanum
Absynthium maritimum
Scordium
Serpentaria virginiana
Arnica
Cortex peruvianus

III. EMOLLIENTIA.

a. *Columniferæ.*

Althæ
Malva

b. *Farinosa.*

Cydonium semina
Fœnum græcum
Linum

Emollientia varia

Parietaria
Verbascum
Lilium album

IV. ERODANTIA SIVE CORROSIVA.

V. STIMULANTIA.

A. *Verticillatæ.*

Lavendula
Melissa
Majorana

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Origanum
Marum
Rosmarinus
Hyssopus
Hedra terrestris
Mentha
Mentha piperitis
Pulegium
Thymus
Serpyllum
Salvia

B. *Umbellatæ.*

Anethum
Angelica
Anisum
Caruon
Coriandrum
Cuminum
Fœniculum
Pimpinella

C. *Siliquosæ.*

Cochlearia
Nasturtium aquat.
Raphanus rusticanus
Sinapi

D. *Alliaceæ.*

Allium

E. *Coniferæ.*

Abies
Pinus
Juniperus

F. *Balsamica.*

Terebinthina veneta
——— communis
Balsamum canadense
——— copaiva
——— tolutanum
——— gileadense

G. *Resinosa.*

Guaiacum
Ladanum
Styrax calamita
Benzöe

H. *Aromatica*

Cinnamomum
Nux Moschata
Macis
Caryophyllus arom.
Pimento
Canella alba
Cascarilla
Piper nigrum
—— longum
—— indicum
Zingiber
Cardamomum minus
Zedoaria
Serpentaria virginiana
Ginseng
Calamus aromaticus

I. *Acria.*

Arum
Pyrethrum
Staphisagria

SEDANTIA.

VI. NARCOTICA.

a. *Rhœades.*

Papaver album
——— erraticum

b. *Umbellatæ.*

Cicuta
Cicuta aquatica

c. *Solanaceæ.*

Belladonna
Hyosciamus
Nicotiana
Solanum
Stramonium

d. *Variæ.*

Laurus
Camphora
Crocus
Vinum

VII. REFRIGERANTIA.

Plantarum Fructus
Herbæ et Radices acidi

VIII. ANTISPASMODICA.

Herbæ fœtidæ.

Artemisia
Atriplex fœtida
Cuminum
Pulegium
Ruta
Sabina

Gummi fœtidæ.

Assafœtida
Galbanum
Opoponax

———

Valeriana sylvestris

IX. DILUENTIA.

X. ATTENUANTIA.

Alkalina
Saccharum
Glycyrrhiza
Fructus siccatæ

XI. INSPISSANTIA.

Acida
Demulcentia farinosa et mucilaginosa.

XII. DEMULCENTIA.

Mucilaginosa
Gummi arabicum
——— tragacantha
Farinosa
Oleosa blanda

XIII. ANTACIDA.

XIV. ANTALKALINA.

XV. ANTISEPTICA.

Plantarum partes acidæ.
Olera acescentia.

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Saccharum
Plantæ siliquosæ
——— alliaceæ
Astringentia
Amara
Aromatica
Olea essentialia
Camphora
Gummi-resinæ
Crocus
Contrayerva
Valeriana sylv.
Opium
Papaver album
Vinum

XVI. Errhina.

Asarum
Helleborus albus
Iris palustris
Pyrethrum

XVII. Sialogoga.

Angelica
Caryophylli aroma.
Imperatoria
Nicotiana
Piper
Pyrethrum

XVIII. Expectorantia.

Hedra terrestris
Marrubium
Pulegium
Enula campana
Iris florentina
Nicotiana
Scilla
Tussilago
Benzöe
Styrax
Balsamum canad.
——— tolutanum

XIX. Emetica.

Asarum
Ipecacuanha
Nicotiana
Scilla
Sinapi
Raphanus rust.
Amara

XX. Cathartica.

1 *Mitiora*
Ascescentia
Fructus acido-dulces
Cassia fistularis
Tamarindus

Dulcia.

Saccharum
Manna
Radices dulces
Olera blanda

Rosa damascena
Viola
Polypodium
Olea blanda
Sinapi
Amara
Balsamica

2 *Acriora*
Rhabarbarum
Senega
Genista
Sambucus
Ricinus
Senna
Helleborus niger
Jalapium
Scammonium
Spina cervina
Nicotiana
Helleborus albus
Colocynthis
Elaterium

XXI. Diuretica.

Petroselinum
Daucus
Fœniculum
Pimpinella
Eryngium
Rubia tinctorum

Varia.

Bardana
Dulcamara
Arum
Asarum
Digitalis
Enula camp.
Genista
Nicotiana
Ruta
Sabina
Seneka
Scilla
Amara
Balsamica
Siliquosæ
Alliaceæ

XXII. Daphoretica.

Crocus
Dulcamara
Opium
Camphora
Contrayerva
Serpentaria
Salvia
Scordium
Guaiacum
Sassafras
Seneka
Acida vegetab.
Olea essentialia
Vinum
Diluentia

XXIII. Menagoga.

Aloe
Gummi fœtida
Plantæ fœtidæ
Crocus

This Arrangement, though evidently defective, yet considering the authority on which it stands, we have thought proper to publish it without any material alteration.

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In which the Plants are arranged according to their Natural Orders.

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MEDICAL BOTANY:

CONTAINING

SYSTEMATIC AND GENERAL DESCRIPTIONS,

WITH

Plates of all the Medicinal Plants,

INDIGENOUS AND EXOTIC,

COMPREHENDED IN THE

CATALOGUES OF THE MATERIA MEDICA,

AS PUBLISHED BY THE

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND EDINBURGH:

TOGETHER WITH MOST OF THE PRINCIPAL MEDICINAL PLANTS

NOT INCLUDED IN THOSE PHARMACOPŒIAS.

ACCOMPANIED WITH A CIRCUMSTANTIAL DETAIL OF THEIR MEDICINAL EFFECTS,

AND OF THE DISEASES IN WHICH THEY HAVE BEEN MOST

SUCCESSFULLY EMPLOYED.

BY

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FELLOW OF THE LINNEAN SOCIETY,

OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON,

AND PHYSICIAN TO THE SMALL-POX AND INOCULATION HOSPITALS.

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